THE UNITED STATES OF AMERICA THROUGH THE STEREOSCOPE

ONE HUNDRED OUTLOOKS FROM SUCCESSIVE POSITIONS IN DIFFERENT PARTS OF THE WORLD'S GREATEST REPUBLIC

"And for your country, boy, and for that flag, never dream a dream but of serving her as she bids you. Remember that behind all these men you have to do with, behind officers and government and people even, there is the country herself, your country, and that you belong to her as you belong to your own mother. Stand by her, boy, as you would stand by your mother"

EDWARD EVERETT HALE

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MAP SYSTEM

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INTRODUCTION

Seeing all there is to see in the United States would mean exploring thoroughly an area of three million square miles. It would mean meeting nearly eighty million people. No one in these busy days can dream of covering the whole gigantic field of interest. All the same, it is easily possible for any man, however closely he may be tied to work in some particular place, to learn from his own observation the large, typical facts of this country, how it looks when one stands bodily in the middle of a great western cattle ranch, or on the dizzy brink of the mad Whirlpool Rapids of Niagara, or peering down into the unbelievable, ragged depths of the Grand Canyon of Arizona. He can see for himself some of the very men whom his vote helped send to Washington, sitting in the House of Representatives. He can stand face to face with descendants of the original owners of American soil, and see their grotesque religious dance just as they have practiced it for centuries and centuries in appeal to the gods for rain. He can look across that memorable battlefield of Gettysburg by the old stone-wall where thousands of brave Americans threw their lives into the balance to decide the greatest question in American history. He can see Yosemite's mountain of bare granite, three thousand feet high; he can watch Oregon lumbermen floating enormous logs down the Columbia; he can see 90-foot beams of steel, red-hot from the fierce fires of a Pittsburgh rolling mill. And he can ponder at his leisure over the sight of what American men have created out of just such steel and stone and timber—giant office buildings forty-seven stories high, in New York City!

This memorable experience is possible for all sorts and conditions of men. It is made thus possible by the perfection of stereoscopic photography, the devising of unique locating maps, and the provision of special guidebooks.

Stereoscopic photographs or stereographs are not just "little pictures." When a stereograph is held in the hand and examined with the unaided eye it seems to the inexperienced observer like a pair of photographs just alike, mounted side by side on one card. The fact is that the two parts are not alike—the negatives were taken at the same instant, but with two different lenses, set side by side in the camera about as far apart as a man's two eyes.

Now a man's two eyes do not give him exactly duplicate reports in regard to any solid object at which he looks. You can easily prove this for yourself. Stretch out your own right arm at full length exactly in front of you, so that the outspread hand is seen edge-wise opposite your face. Close the left eye and look only with the right; you see the edge of your hand and a part of the back of your hand. Keep your position unchanged, but close the right eye and look only with the left; this time you see the edge of your hand and a part of the palm. Now look with both eyes at once. You see with the right eye a part of the right side, with the left a part of the left side; the result is that you practically see part way *around* the hand, and that is what makes it look solid rather than flat or like a mere shadow on paper.

Stereoscopic photography is based on this principle of two-eye vision. One lens of the stereoscopic camera takes in just what a man's right eye would see if he occupied the camera's place. The other lens takes in exactly what the man's left eye would see at the same instant. When the two resulting prints are placed before the oblique-set lenses of the stereoscope, the impressions they give are combined into one. You see everything standing out solid with space around it, exactly as you would see it if you were bodily present on the spot, lacking only the element of color.

Try one more experiment to see how much difference there is between an ordinary "picture," such as can be seen with one eye or taken with one lens, and a stereograph of the same place. Find Position 42 in this tour—"Yosemite Falls from Glacier Point trail." Cover one side with your hand or with this book and look at the other side, not using the stereoscope. It is interesting—yes, that scenery must be grand, so you say. Now place the stereograph in the rack, adjust it at the proper distance for your eyes, and look at it through the stereoscope lenses. Does it not make you almost draw back with a shock of surprise? You feel yourself actually there on that perilously narrow shelf where the sure-footed horses are pausing; you almost hold your breath as you peer down into the bottom of the valley toward which the Yosemite waters are making their airy leap!

The difference between a mere picture and a stereograph is probably clear to you now.

It seems to some people too wonderful for belief that stereographs should give them the impression of everything in the full size of the actual, existing world, yet this also is true. Look out through a window ten feet away at a man in the street beyond; how much space on the window-glass is actually occupied by his distant figure? The facts will surprise you. A visiting card held in your own hand at arm's length would more than cover him from sight. That same small card might cover a tall building, or even hide a distant mountain, for a small thing near the eyes fills the same space as a much larger thing farther away. This fact of optics has also to do with the service rendered by stereographs, for the stereoscopic prints, when viewed through a stereoscope, become like so many *windows through which you see the real things,* full size, off at the distance where they actually were in fact, when confronted by the sensitized plates of the camera.

The mechanical construction of the stereoscope in itself helps one to see everything in full size with the effect of real presence on the spot. The hood which fits against the forehead, shutting off as it does all

sight of the things directly surrounding you as you sit in your own chair, makes it much easier for you to forget that chair and the floor and the walls of your room—to think only of the other place at which you are looking, and to *feel yourself actually there on the spot.*

But in order to have a thoroughly satisfactory sense of location on the spot you must know where "there" is; lacking such knowledge you still remain in the helpless condition of a man who has been carried somewhere blindfolded or asleep, and who opens his eyes on a place whose identity is unknown. To meet the need in this line you will find the special, patent maps included in this little book quite invaluable. Do not fail to study the maps; they will repay you tenfold for the slight exertion necessary in using them.

Map 1, a general map of the United States, shows the entire line of movement from one position to another. The figures in red show exactly where you are standing in each case. The red lines diverging V fashion from many of these points show in what direction you are looking. At certain stages in your progress over the country you are to take several successive standpoints too near together to allow them to be marked clearly on the general map; in certain such cases a section of the country is enlarged to make a special map (e. g. Washington, Niagara, New York City), and on those sectional maps you find indicated not only your position and the direction of your outlook, but also the range or limit of that outlook. In each case *you look over the area included between the diverging red lines,* and *you see as far off as the red lines reach* on the printed map.

You will find it well worth all the trouble it costs to pause at each standpoint and think definitely just where you are and not only what is before you, but also (wherever possible) what is behind you and what lies off at your left and your right beyond the limits of actual vision. This aids immensely if you want really to enter into the spirit of the place in question. If you take pains to do all this, you can certainly obtain

a considerable measure of the very same feelings that you would have if you were bodily on the spot—the difference will be only as to the degree and intensity of feeling, not in regard to the kind of feeling.

Do not hurry. Tourists often lose half the meaning and half the pleasure of a journey because of their nervous way of scampering from one sight to another without stopping to think about what they see. To some extent this mistake can hardly be avoided when trains are due at certain moments and excursion tickets have limited dates. But, when you are looking at the country through stereographs instead of through car windows, you can take your time about it. You can linger long enough in any one spot so that the beauty and the meaning of what you see may be mentally digested. Best of all, you can keep going over and over again to any place which makes a particular strong appeal to you; you can gradually grow as familiar with it as if it were close by your home.

The closing pages of this book suggest some lines of interest which you may like to follow up for yourself. The lists are offered only as clues or guideboards. They leave to you the pleasant task of discovering for yourself the genuine treasures of information and inspiration toward which they will lead any reader who likes to do thinking of his own.

HOW TO USE THE STEREOGRAPH SYSTEM

Always sit so that a *strong, steady light* falls on the face of the stereograph. It is a good plan to let the light come from over your shoulder.

Hold the hood of the stereoscope *close against the forehead,* shutting out all sight of your immediate surroundings.

Move the sliding rack, with the stereograph, along the shaft until you find *the distance best suited to your own eyes.* This varies greatly with different people.

Refer to the proper maps and *know exactly where you are* in each case.

Read what is said of each place in this book.

Read the explanatory comments printed on the back of each stereograph mount.

Go slowly.

Go again.

Think it over.

THE JOURNEY

Such a journey as we are to make might be begun at any point with which the traveler is most familiar. For convenience it is planned to begin at the nation's capital city, Washington. It is well, at the start, to look over the general map of the United States (Map 1, inserted at the back of this book) and refresh one's memory of the relative situation of the places to be visited. Our route is indicated by the red line. It runs from Washington, D. C., down the Atlantic seaboard into Florida, westward to New Orleans, up the Mississippi past St. Louis, with a side excursion into Tennessee; it crosses the southwestern states into California, goes northward through the Pacific Coast states and turns eastward again to reach Yellowstone Park, Utah, Colorado and Kansas in the middle-west. Then it turns toward the Great Lakes on the northern border of the country, touching Chicago and the lake-shore districts farther east. It pauses at Niagara, turns southward across Pennsylvania to Philadelphia; moves up into historic Massachusetts, and then comes down into New York to end the journey in that great cosmopolitan centre—America's greatest city,—the second largest focus of life and work in the whole world.

Now turn to Map 2 where the city of Washington is shown by itself in full enough detail to make clear the location of the principal landmarks. The place

Position I. Map 2

where we are to stand first is marked on this Washington map with a figure 1 near by, enclosed in a red circle. Our actual position is to be at the point of a long red V with which the encircled figure is connected. The red lines spreading from that point to form the V enclose between them the space over which we shall be looking, and the direction in which they run shows that we shall be facing toward the southeast. Look carefully at the map. As you stand there, facing southeastward, a little pond will evidently be right before you with the Washington monument beyond it. The larger part of the city (so the map shows) will be off at your left, the Potomac river at your right. The Capitol will be ahead and off at the left but not within your range of view. Get your position and surroundings clearly in mind. Then take the stereograph whose number (1) corresponds to the number of your position as marked on the map, and see the place through the stereoscope.

Position 1. Washington Monument, 555 feet high from northwest, Washington, D. C.

Here we are in America's capital city, before her great national monument. This is the tallest stone building in the world. How it towers before us higher and higher into the sky! Its dignified simplicity makes it an especially suitable memorial for the first President of the world's greatest republic, where the principle of popular self-government is being gradually worked out before the eyes of other nations.

It was in 1832, when the country was celebrating the hundredth anniversary of Washington's birth, that the idea of this monument first took shape. The corner-

stone was laid in 1848 and between then and 1856 the construction (in gray granite) was carried as far as funds allowed. All through the Civil War and during several years before and after the war, the work was at a standstill. You can see plainly from here now a line in the masonry showing where the work was abandoned and then begun again. As we see it now this is said to be the most perfect piece of workmanship of its kind in the world. Standing as it does actually *more than a tenth of a mile high,* it varies barely three-eighths of an inch from the absolute vertical. Think what precision that means! Those walls at the base are fifteen feet thick, to support the enormous weight of granite blocks, while up there at the top they are lessened to a thickness of a foot and a half. That pyramidal cap away up on the peak is of white marble. Inside the shaft an elevator carries passengers up, up, up to where you see those window openings in the roof, looking like little dark dots on the marble surface. There is also a stairway of 900 steps, winding upward around the elevator shaft like the thread around the stem of a gigantic screw.

Now look particularly at those two windows in the left (north) side of that lofty cap. Our next position is to be up there in the top of the monument, looking out northward over a part of the city. Consult the Washington map again and see how two long red lines reach off from the Monument northward to the limits of the map. Those two lines include between them what we are going to see from our second position. The map shows that the White House and its grounds will be seen near-by, directly before us, with the Treasury at the right, the State, War and Navy Department

at the left, and a long range of streets and houses beyond.

Position 2. From Washington Monument north over the White House and Treasury

Away down there before us, nestled among the trees, is the building which every President since Washington's time has known as home.

The President's special official rooms and the room where the Cabinet meetings are now held are in that long, low wing of which we catch a glimpse, extending from the left (west) side of the White House toward the big State, War and Navy Building. A similar low wing (we see only a bit of it through the trees) reaches eastward toward the Treasury building. The family residence rooms and those used for special social functions are in the main building. The famous East room, for example, is on the ground floor down there in the right half of the main body of the White House. Along those tree bordered streets beyond the White House grounds are the homes of many of the greatest men who have helped to make America what she is—men now in the thick of their work, and men who have passed on into history.

Consult the Washington map again and see how another pair of red lines reach off eastward from the monument to the limits of the map where the ends of the lines are marked 3. Our third position is to be still up here in the top of the monument, but we are to look off from a window in the east side of the roof. Notice what the map shows included between those long red lines marked 3, for that is what we are to see.

Near-by will be the grounds of the Agricultural Department and of the Smithsonian Institution. Farther away (so the map tells us) we shall see the Capitol with the Congressional Library still farther eastward, and a wide reach of city streets on either side and beyond it.

Position 3. From Washington Monument east to Capitol and Library

As we are now looking east, we know that the White House and the other buildings north of the Monument, at which we were looking a few minutes ago, must be down at our left, outside our present range of view. Here directly before us, but five hundred feet below where we stand, we see the beautiful park of the Agricultural Department and the Smithsonian grounds, just as the map promised. That nearest structure down at the right is the Agricultural Building; the one with the pointed towers is the Smithsonian Institution with the National Museum beyond it.

The Capitol itself, rising above the trees yonder with its great central dome and broad wings all snowy white, really crowns a commanding hill almost one hundred feet about the river level, but we are now so much higher than the hill that we hardly realize its height in comparison with the surrounding city. There is in fact no Government building in the world with a location better fitted to display its own beauty and dignity. That other building beyond the Capitol, with wings flanking a central gilded dome, is the Congressional Library. We shall visit both in the course of our journey, seeing for ourselves the famous legis-

lative halls and some of the architectural beauties that make both buildings famous.

Beyond the dome of the Capitol you see a stream that marks the eastern limits of the city; our map shows that it is a branch of the Potomac. When the Capitol was first built it was thought that land over at its farther (eastern) side would be the most desirable part of the city site; indeed the main entrance to the Capitol itself was put on that farther side of the building; but as the city gradually developed it has grown most westward and northward.

Now we will go down from the Monument into the city itself and take our stand at the southeast corner of the Treasury Building which we saw from Position 2. Find the spot on the Washington map; an encircled figure 4 is near-by, connected by a short wavy line with the point of another long red V. Midway between the spreading red lines the map shows Pennsylvania Avenue, leading straight from the Treasury toward the Capitol. We are evidently to face southeast and look about a mile and a quarter along this famous thoroughfare. The White House will be behind us, the Monument off at our right.

Position 4. Pennsylvania Avenue S. E. from the Treasury to the Capitol

It seems hardly possible that the Capitol yonder above the trees should be over a mile away. Its size and its commanding position make it seem much nearer. That tower at the right hand side of the street marks the General Post Office, the central station where records are kept of the enormous postal business of this whole country. There the rules are made that systematize

Position 4. Map 2

for us the transmission of about *eighteen billion* pieces of our U. S. mail matter every year. The building beyond it houses a celebrated hotel and restaurant. That tallest building on the left side of the street is another first-class hotel, the Willard,—known the length and breadth of the land by tourists and people in political life. Shops of all sorts, theatres, restaurants and similar establishments line the greater part of the street from here to the Capitol grounds. Just now we see the place in the comparative quiet of midsummer. At other times of year, when Congress is in session, there is more life everywhere. On each Inauguration Day this broad street becomes lined with solid masses of spectators, waiting to see a new President ride through to take the oath of office at the Capitol.

We ourselves will move on now up to the Capitol, taking our next position near a farther (northeast) corner of the building where we can get a good view of its eastern front. The V lines as you find them marked on the map differ a good deal in length. We are to stand at the point of the V, you remember; the line at the left is considerably longer than the line at the right, promising that we shall be able to see over a longer distance towards the left than towards the right.

Position 5. The United States Capitol, east front

The map tells us that Pennsylvania Avenue is now at our right, running back from the Capitol grounds towards the Treasury and the White House.

This, you understand, is not the same side of the Capitol which we have already seen from the Treasury (Position 4) and from the Monument (Position 3);

this is the east front on the side towards the great Library. The Library is now just out of sight at our left.

We often hear it said that our country is too young, too crude, too absorbed in the chase after money, to produce any art worth serious consideration, but this building before us does command the respectful admiration of competent critics from all lands. The proportions are beautiful; it is excellently fitted to its practical purpose; the decoration of the great white mass with its wide spreading arms is kept simple and in perfect keeping with the construction of the whole. And it is really remarkable that it should give us, as it does, the effect of one single serene whole, for in actual fact it has grown to its present size and shape through successive alterations. That central section with the crowning dome was given the two broad wings long after its original construction, but the later architects put their new ideas into perfect harmony with the old, and so achieved a genuine masterpiece that may well make us honestly proud.

The extension nearest to us now includes the Senate Chamber with a great number of offices and reception rooms. The Supreme Court holds its sessions in the older part of the building which you see beyond this first entrance portico. In the extension at that farther end of the whole building is the Hall of Representatives.

We will go there now.

Position 6. A joint session of the Senate and House of Representatives

We are looking down from a gallery on the west side of the hall, into a room where some of the most important discussions in our recent history have taken

place. Some of the hottest debates on subjects of the deepest import to American life have been held by members of the House, speaking from the floor down there below us.

What we see just now is a special session, with the senators, the Justices of the Supreme Court, the Cabinet members and various distinguished guests, in addition to regular members of the House, crowding the room to its utmost capacity. The occasion is John Hay's memorial eulogy of McKinley in 1902. Secretary Hay is now addressing the assembly. Directly before him in a front seat just this side of the centre aisle is Theodore (then President) Roosevelt. Chief Justice Fuller occupies the front seat at the farther side of the aisle with other Supreme Court Justices beyond him. Prince Henry of Prussia sits just this side of Roosevelt. Fully half the men in sight are famous and deservedly so. Almost all are men who have had a hand in the shaping of our American institution.

The people in the opposite gallery are wives, daughters and neighbors of the men on the floor, admitted on special invitation.

Now we will mount to the dome of the Capitol and look off over the eastern part of the city. Consult the Washington map once more and see how two lines (numbered 7 at the extremities) start from the dome and reach beyond the map limits. They include between them a park, then the Library of Congress, then a broad expanse of the eastern part of the city. Notice that we ought to see Pennsylvania Avenue continuing far off toward the southeast, lined with rows of trees.

Positions 6, 7. Map 2

Position 7. The magnificent Congressional Library east from the Capitol

Here it is as we expected,—the shady space of the park, the beautiful granite mass of the Library, and the city beyond, with the low green hills of Maryland to end the outlook. The tree-bordered ribbon of Pennsylvania avenue's continuation is easy to identify beyond one shoulder of the Library. But it is the Library itself which interests us most. That low, flat dome with its gilded surface marked off with bronze is one of the best things of its kind in the whole country. The more you look at it the more fully you appreciate the beauty of its design. It was purposely kept smaller and lower than the dome of the Capitol, in order not to injure the commanding accent or emphasis of the older building; that in itself meant true artistic feeling in the architect, for the easy and cheap thing would naturally have been to try to make this building call attention to itself as a rival of its older neighbor. Every American with any sense of beauty and harmony ought to be grateful for the cultivated sense which prevented any such clashing rivalry. The building is really bigger than it looks, covering the better part of four acres, open courts alternating with enclosed sections so that every part of the huge structure is well lighted. In that front corner farthest to the right, on the ground floor, is a special reading room for Senators. In the section between that corner and the central part of the building is the Representatives' own particular place for consulting books. At the same time, members of Congress naturally have special privileges about taking books for outside use. There is an underground tube running from here over to the Capitol, through which volumes needed in the course of debate or committee

work can be sent by pneumatic power in a very few moments. Directly under the dome is a great central room, 125 feet high, where anybody may go freely to read and study. The library is less than a century old, but wise purchases have made it include immensely valuable collections of early publications, and each year its possessions are increased by copies of every book, pamphlet, map and photograph that is copyrighted in this country. In that way it keeps completely abreast of current American literature and American editions of all foreign literature.

The casual sight-seer cannot linger to do any reading; all the same he cannot afford to pass on without at least one glimpse of the interior of the building, for it is as splendid in its decoration as a palace might be. We ourselves will pass in through one of those arched doorways, cross a marble vestibule, and stand for a minute in the main entrance-hall from which staircases rise to the second story.

Position 8. Grand Staircase in the Congressional Library

There are two marble staircases like this, one at each side of the hall. This is at the north side. If instead of going upstairs a person walks straight through eastward (right) he comes to the great public reading room in the lofty rotunda under the dome. The floor here under your feet is of Italian marbles—reddish from Verona, tawny yellowish from Siena. That bronze figure lighting the way with a torch of electric bulbs is typical of a great amount of decorative sculpture in various parts of the building. Every bit of ornament that you see has some appropriate meaning. The chub-

by child-figures that alternate with drooping curves of garlands along the staircase balustrade represent different occupations and interests in human life—the student of plant life, the student of animal life, the student of books, etc. Those marble pillars that stand in pairs supporting the vaulting above are as beautiful in workmanship as you would find in the most famous buildings of Europe and perfect in every detail. The walls and ceilings of which you get glimpses here and there are ornamented with exquisite mosaic in stone of many colors or with sculptured bands and figures. The whole hall is like a dream of architectural splendor, comparable only with a few foreign palace interiors. What makes the splendor suitable for our republican land is perhaps the fact that this is the people's palace. The poorest working man or woman in the United States is one of its owners and has a right to enjoy all it can offer of pleasure or profit.

We will go back now past the Capitol and along Pennsylvania Avenue, by the Treasury building, and around to the north side of the White House. The Washington map marks our next position with the number 9 at the edge of Lafayette park and the V lines show that we are to face directly south.

Position 9. The White House, historic home of the Nation's Chief

The Treasury building is of course at our left, with Pennsylvania avenue leading off southeasterly to the Capitol and the Library where we have lately been. The Monument, from which we got our first glimpse of the White House, is straight ahead beyond the White House, about half a mile away.

Positions 8, 9. Map 2

We see just now only the main body of the President's home; the low broad wings which extend from it east and west are hidden by the trees. But what we see now—this simple and dignified dwelling house of Virginia freestone, with a pillared portico in the traditional style of fine old southern mansions,—is the White House as all our Presidents knew it from John Adams' time down to McKinley's. Washington himself never lived here, but he chose the site and laid the corner-stone. The family dining-room is on the ground floor at the right of the large portico; the State dining-room where distinguished guests are formally entertained is beyond it at the farther side of the house. The famous Green, Blue and Red rooms are on the ground floor at the farther side of the house opposite the portico. The East room, where large receptions are held, occupies the entire ground floor at the left side of the portico and has windows on three sides. The second-story rooms are occupied by individual members of the President's family or his personal guests.

We ourselves will enter through the door under that portico and go into the East room at the left of the entrance, turning when we get inside so as to look back through those northern windows toward this stretch of grassy lawn across which we have been inspecting the house.

Position 10. The East Room where receptions are held, White House

It is a room forty by eighty feet in size, well fitted for large gatherings, and it has served many purposes, both tragic and gay. Lincoln's body lay in state here

before being borne away for burial. Kaiser Wilhelm's brother Prince Henry of Prussia was dined here. President Grant's daughter Nellie and President Roosevelt's daughter Alice were both married here. The room now is very different from what it was in Grant's time; the heavy upholstery of those days has given place to this simpler, airier effect. It is a thoroughly beautiful room now, not at all showy except as its size necessarily keeps it out of the ordinary, but stately, serene, and with a distinct air of refinement. It is a room quite worthy to receive any honored guest of our republic's Chief Magistrate.

Of course you wish to see the Chief Magistrate himself. No visit to Washington would be satisfactory if it lacked a glimpse of the President. His official workroom is away off at our left, in the west end of a long, low wing stretching out towards the State, War and Navy building. We had a glimpse of the wing from Position 2.

Position 11. The President at his desk, Executive Office in the White House

There is no harder worked man in the United States than its Chief Magistrate. He is Commander-in-chief of the army and the navy, and is responsible for their efficiency. He is responsible for the appointment of the members of his Cabinet and to a greater or less extent for what they do as heads of their several departments. On him rests the main burden of maintaining the right relations (friendly or unfriendly, as justice demands) with all the other nations of the world. He must suggest measures and policies to Congress and sit in judgment on the proceedings of Con-

Position 11. Map 2

gress. He must with his own hand sign enormous numbers of documents of every description—documents that mean peace or war; that mean business prosperity or "hard times"; often documents that mean freedom or dreary imprisonment, life or death, to individuals who have come under the ban of law.

In old times the affairs of the President's office used to be managed in an unsystematic, happy-go-lucky fashion. A vast amount of official business went through without ever being formally recorded—such was the easy custom of old times—and papers were seldom so filed as to be promptly available for later reference. But for half a century the technique of the office system here has been gradually improved, and now everything is done with the same exactness and completeness of method that would be found in the best business house.

You remember that when we looked north from the Monument (Position 2) we saw the great building which houses the State, War and Navy Departments, just west of the White House. We shall end our Washington sightseeing with a visit to one part of that building, occupied by the State Department.

Position 12. Diplomatic Room in the State Department, where conferences are held

This is where the Secretary of State receives Ambassadors, Ministers and other representatives of foreign governments, and confers with them on matters which have to do with our international relations.

When an "ambassador" comes here, he technically represents not only the government of his nation but actually the person of his home sovereign. A "minis-

ter" represents his nation's government but is not supposed to be actually the personal substitute of the foreign ruler. The custom of European and other foreign nations is of course to have their representatives observe and expect elaborate formalities of intercourse; consequently these walls listen to an immense number of the ceremonious courtesies that keep friendly relations unruffled or help bring amicable understanding out of possible difficulties.

The meetings that take place here do not go on public record. Sometimes we know about them because of their results; oftener we never hear of them at all, because they relate to matters on which the public is utterly without knowledge and about which the public could not possibly have opinions of value. Over-enterprising journals would often be glad to give enormous sums for a chance to exploit in big headlines the subject of some quiet talk in this room, but they never get the chance. And no doubt innumerable matters are here talked over and amicably arranged, which might—if indiscreetly handled and given out to gossips—have involved the nation in serious, if not tragic trouble.

We say good-bye to Washington now* and begin our tour of the country at large by starting southward into the storied ground of old Virginia, one of the original States that together formed the Union. And our next position is to be at the old home of one of Virginia's

*For more outlooks in different parts of Washington, take the full tour—*Washington through the Stereoscope*, 42 positions, with a guide book by Rufus Rockwell Wilson, author of *Washington the Capital City*, etc. The biographies of all our Presidents are full of stories and allusions that make the Washington landmarks rich in meaning for the sightseer.

Position 12. Map 2

most famous sons. Our map of the city of Washington marks the spot 13. It is just outside of Washington, over on the other bank of the Potomac river.

Position 13. General Robert E. Lee's old home at Arlington, Va.

We are up on a hill two hundred feet above the river, with acres of grassy open lawns, flowery gardens and shady woods around us. This is historic ground beneath our feet. The land here was once part of the home estate of John Parke Custis whose widow later married George Washington. This estate passed to one of her grand-children, George Washington Parke Custis, and in 1802 he built the fine house with its Greek portico, for his own home. His daughter married Colonel Robert E. Lee, a son of "Light Horse Harry" Lee, of Revolutionary fame. When 1861 brought its tragic conflict of duties, and Lee felt that he must devote his own splendid gifts to the Confederate cause, this beautiful home, with all its proud and tender associations, was left behind for the hardships of the camp, the march and the battlefield. Now for almost half a century the place has been the property of the United States Government, and it is used as a national cemetery. Twenty thousand graves of United States soldiers are here covered every year by new grass and flowers. In one place not far from this house rests the dust of more than two thousand men whose names are unknown,—men who died for their country on battlefields of the Civil War, without having their heroism put on any human record.

There is perhaps no spot in the length and breadth of the land which appeals more strongly to a man with keen human sympathies than this old home, surrounded

by the graves of those who fought out the struggle of half a century ago.

There are a good many charming books that describe life in Virginia before the desolating years of the war. Thomas Nelson Page's, for example, are well worth reading: *The Old South, Social Life in Old Virginia before the War,* etc., etc.

Mary Johnston's *To Have and To Hold* is a Virginia romance of much earlier times, going back to the seventeenth century.

Sixteen miles below Washington and Arlington, on the Virginia side of the Potomac river, we find our next position.

Position 14. Home of Washington, Memorial of the Republic's Founder, Mt. Vernon, Va.

It was from this beautiful home that Washington went out as a soldier. Here he returned after bringing the Revolution to a victorious close. Here he was living when the people of the United States elected him the first President of the new nation which his genius had helped bring into existence. Here, after he retired from public life, he spent his days as a good citizen and an enthusiastic student, still laboring hard, in a private capacity, to help solve the problems of national growth and national unity. Here he received visits and letters from many of the most distinguished men of his time; you remember Prussian Frederick the Great sent here a portrait of himself inscribed "From the oldest general in Europe to the greatest general in the world."

In 1860 the estate was bought with funds contributed from all over the country by an association of

patriotic women, and it has since been the property of the nation. The various rooms of the house have been restored as nearly as practicable to their old appearance; some of the furniture is that which Washington owned, and the rest is at least of similar age and style. The outlying farm buildings, servants' quarters, etc., are restored also, preserving quite perfectly the effect of a typical southern mansion with its dependencies.

The Potomac river which flows past Washington, Arlington and Mt. Vernon, flows into Chesapeake Bay. Near where the Bay itself is about opening into the Atlantic is one of the best harbors on the whole eastern seacoast—Hampton Roads. We shall take our next position (15) there, on the deck of a steamship.

Position 15. U. S. Battleships—CONNECTICUT in the lead—steaming out to sea

It is a sight that makes the heart beat faster—not altogether because of visions of battle, destruction and death, but because of the national strength and power which these ocean giants embody. Even so recently as the time of the great Civil War, our navy was a poor affair, beneath the consideration of the great nations of the Old World. Today,—though opinions differ as to the extent to which we should carry the enlargement of our navy,—we have (in 1910) 31 effective battleships, 12 armored cruisers, 16 "protected" cruisers, 5 monitors, 26 destroyers, 53 torpedo boats and submarines, with others building.

The *Connecticut,* just now steaming directly towards us, is a 16,000 ton battleship with 11 inch steel armor. She carries four 12 in. guns, eight of 8 in. and a dozen

more of 7 in. and her engines give her 16,500 horse-power. She is manned by over 880 men and can make 18 knots. Behind her follow the *Kansas,* the *Louisiana,* the *Vermont,* and a dozen others of our finest vessels.

How short a time it has taken to develop the idea of steelclad sea fighters like these! It was here at Hampton Roads in these very waters, in 1862, that the famous battle between the *Merrimac* and Ericsson's newly invented *Monitor* opened a new era in naval warfare. Ever since then improvements in armored vessels have multiplied. Changes in construction and finish have even within the last dozen or twenty years been so marked that some of the ships and cruisers which gained our splendid victories during the war with Spain are now in certain respects behind the times. But though their day of leadership is past they are still equal to splendidly effective service, and their glory is historic.

Longfellow's poem—"At anchor in Hampton Roads we lay" is something forever associated with these heaving waters. Every history of the United States gives some account of the old sea-fight; it is well re-told in Theodore Roosevelt's *Hero Tales of American History.*

Virginia is one of the most beautiful parts of the whole country. We will take just one glimpse up among the Blue Ridge mountains near the centre of the State. The place where we are to stand is marked on our general map by the number 16.

Position 16. One of Nature's curiosities, the Natural Bridge, Va.

You are in the district known as National Bridge

Park, near Lexington and the banks of the historic James river. Just now you stand between two of a group of five mountains which make the region rich in picturesque effects. This gigantic bridge connects two of the mountains. It is one solid mass of limestone. From the surface of this little creek which dances at your feet up to the top of the bridge is a height of two hundred and fifteen feet. That open arch in itself is ninety feet high. Only geologists can guess how long ago nature carved it. White men have known of its existence since 1759. While George Washington was surveying this district for Lord Fairfax he visited the place and carved his name on a smooth space on one of the rocks. Thomas Jefferson was for a good many years the owner of this ground, and he built a cabin near by for the shelter of visitors who might come to see the marvel, stationing a couple of his negro slaves here to act as caretakers at the cabin. In those days and for a long time afterward a tiresome journey on horseback was necessary in order to reach the spot, but a great many distinguished people did take pains to come here, and left their impressions of the place on record. Henry Clay wrote eloquently of "the bridge not made with hands, that spans a river, carries a highway, and makes two mountains one."

The mountain districts of North Carolina could show us scenery of superb beauty, but we shall see a good deal of noble landscape in the course of our journey, so we will choose here rather to see the unique labor conditions under which one of our great, typical industries is commonly carried on. The position we shall take is in the south-central part of North Carolina, at the spot marked 17 on our general map.

Position 16. Map 1

Position 17. In the southern pine woods, collecting crude turpentine, N. C.

This is in what they call the "sand belt" of the state, where sandy soil of great depth produces enormous numbers of the long-leaf pine. The resinous fragrance of the trees is very marked; thousands of people come every year to the resort called "Pinehurst" and other places in Moore County for the pleasant tonic of the air. The climate is somewhat like that of southern France.

Instead of the Provençal peasants of the Riviera, this region has negroes, who do much of the manual labor and help make things picturesque. Gathering the pine-tree sap is hereabouts an important means of earning a living. The sap naturally rises under the protecting bark and distributes itself gradually among the branches. In order to intercept its flow they strip off the outside bark,—not in a complete ring, for that would soon ruin the tree,—but part-way around, leaving an untouched strip to allow some of the sap still to creep upwards and nourish the tree. Each season they take off a section of bark higher than the one removed the year before. The sap (i. e. the crude turpentine) oozes out of the bared "sap-wood" and trickles downward to that hollow near the roots; the accumulated drippings are once in so often dipped out and added to the slowly increasing contents of kegs and casks. That ramshackle ox-cart will carry it off to where its impurities can be removed by distillation.

Resin and spirits of turpentine produced from crude turpentine like this serve an immense number of purposes in practical industries. More than $25,000,000. worth of the stuff is produced every year in our land and most of it comes from the southern Atlantic sea-

board states, because the particular species of pine that produces the most turpentine grows best in southern sands.

If you are interested in the picturesque side of negro life, its humor, its pathos and its quaint fancies, the stories of Joel Chandler Harris ("Uncle Remus") and Ruth McEnery Stuart will be an unfailing mine of entertainment.

Another important crop that we see as we move on southward is rice. Notice where we are to get our next outlook, at the spot marked 18 on the general map.

Position 18. A rice raft with plantation hands near Georgetown, S. C.

On great level tracts of low ground, like this which you see now, some of the best rice in the country is raised. Late in the fall the ground is ploughed and then flooded with water from irrigation ditches to loos-en-up the soil. In early spring the surplus water is drained off and seed is planted, two or three bushels to an acre. The seed is covered with a very light sprinkling of soil and then wet down once more so that it may sprout in soft, warm mud. While the grain is growing (rice is really a sort of specialized grass) the ground is again flooded at intervals to keep the soil soft and wet. Only when the crop is nearly ready for harvest is the earth allowed to dry and harden under the hot sunshine. A great many improvements have been made during the last few years in the line of harvesting ma-chinery, so that the work can now be done much more expeditiously than in old times. Threshing is done in the field.

This scow is loaded with rice-straw from the thresh-

ers. It is used for fodder, for bedding, paper-stock, etc., etc. Darky "hands" like these are employed on all the plantations hereabouts. They are of course descendants of the slaves of an earlier time. Their ancestors were imported generations ago from the African Gold Coast and the banks of the Congo.

The Carolinas, North and South, are among the oldest of the sister states. They both took an active part in old colonial affairs and in the struggles of the Revolutionary War. And later still, in the times of the Civil War, spots before unknown to fame earned a place in the national history. In fact the Civil War began in the harbor of Charleston. Our next position (marked 19) will be on a boat in that harbor.

Position 19. Where the Civil War began—Fort Sumter in Charleston harbor, S. C.

The city is about four miles away farther up the harbor. December 20, 1860, South Carolina seceded from the Union. A few days later Major Anderson who had command of a United States garrison at Fort Moultrie up nearer the city, transferred the garrison to this island that you see now. The Governor of the State demanded the evacuation of this fort. Anderson refused. His supplies ran short and others sent from the North were prevented from reaching here. By the first of April supplies were very low indeed, and meanwhile the State had been making ready to demolish Anderson's stronghold. Batteries were constructed for the purpose on Morris Island only three-quarters of a mile away and at Fort Moultrie.

President Lincoln notified Governor Pickens that

provisions would be forwarded by the United States to Fort Sumter. Governor Pickens authorized General Beauregard to demand the surrender of the Fort. Anderson refused to surrender. Beauregard opened fire and for thirty-six hours poured shot and shell on this little fortress, answered vigorously as long as the gunners had any food left to enable them to stick to their duty. At last, on the 14th of April, Anderson absolutely had to surrender; though not a man in the fort had been killed by the bombardment, all were practically starved out. From that day, it was plain that the question at issue would have to be fought out to a finish.

It was just four years after the surrender (April 14, 1865) that the same commander,—a Kentuckian by birth—raised again over this fort the same United States flag which he had been forced to haul down. (See any good history of the Civil War.)

The tragic conditions that prevailed in this part of the country during and directly after the war have now largely passed away, and the Southern States are entering on broader and more solid prosperity than they had enjoyed before the great conflict over States' rights. In old times there were almost no manufacturing industries in this part of the country. The whole population had practically to be supported directly from the land. Home-grown cotton was sent to the factories of New England and Old England to be transformed into cloth, and factory operatives in those regions put the factory wages in their pockets—wages which the South naturally had to pay in the form of prices per yard for the finished cloth. Now let us visit a great mill in Columbia, S. C. (the place is marked 20 on

our map) and see how such work is being done on South Carolina soil.

Position 20. In a great spinning room (104,000 spindles), Olympian Mills, Columbia, S. C.

It is one of the largest cotton mills in the country where you stand now. As you see, a good many children are employed here,—an unfortunate state of things which will doubtless be remedied in the course of time. Competition makes it apparently necessary to secure cheap labor, and this part of the country does not have at hand any swarm of newly arrived immigrants from European factory towns, such as pour into the manufacturing centres of New England and the Middle States. It is everywhere still a serious problem how to produce cheap goods and at the same time pay decent wages.

To anybody who cares to think below the surface of things a scene like this is full of fascinating suggestion. Long before history began to be written, savage people had somehow conceived the idea of interlacing long grasses or strips of great leaves back and forth so as to make a continuous fabric. After a while they found they could twist strips or fibres together, so as to make short pieces of weaving-stuff hold together like one continuous thread. And with that primitive invention they had the fundamental processes of both spinning and weaving. Since that far off day we have simply been perfecting the details and learning how to work more quickly. Up to three hundred years ago the woman who toiled twisting flax or cotton or wool fibres into a continuous thread, with only her fingers and a weighted top to help her, had to stop every few moments to wind off on a rude spool

the thread she had produced. The invention of a spinning wheel for flax made it possible to twist the fibres and wind off the finished thread at the same time. Then in 1764 Hargreaves, an English mechanic, invented a machine that would twist and wind-off eight threads at a time instead of only one thread. When the idea had once been worked out, it was not difficult to increase the capacity of such machines until each one could produce sixteen threads, twenty,—more and still more.

The machines in this one room carry 104,000 spindles, each one revolving 9,000 times in a minute, and they keep it up through the working day. The chief duty of these boy laborers is to watch the spindles for breaks or other defects in the thread, which would prevent the product from being first-class for its intended use in cloth weaving.

Shall we see how this cotton is grown? All the Atlantic seaboard states, the Gulf states and those of the lower Mississippi valley raise cotton in enormous quantities. The position we are to take is set down in Georgia and marked 21.

Position 21. Cotton is King. Plantation scene with pickers at work, Ga.

There are plantations where cotton is picked by mechanical harvesters,—machines ingeniously contrived to straddle the bushes without crushing them. But most of the picking is still done in this slower, safer way by hand. The field hands are always darkies like these, and a picturesque sight they make with their black or bronze faces and their gay calico shirts and gowns painting spots of color against the white of the cotton-bolls and the faded browns of the dry leafage.

The plants themselves you hardly see in any recognizable fashion now that the leaves and stalks are so withered. They are really second-cousins to our garden hollyhocks, with a special distinguishing fad of their own for surrounding their seeds with a mass of fluffy white fibre. The plant will grow well only in regions with a high temperature, moderate rainfall and abundant sunshine—conditions furnished in perfection by great tracts of country in the southern seaboard states, along the Gulf and for some distance up the Mississippi valley. We produce more than eighty-five per cent. of all the cotton grown in the world, and as agricultural science becomes more and more able to meet the problems of fertilizing soil and of destroying insect pests, our production must naturally increase still more.

In old times the business had a great many "loose ends" where the by-products were wasted. For years the fibre was pulled by hand from the seeds, after picking, and the seeds (together with quantities of neglected fibre) were thrown away. The invention of the mechanical "gin" or separator saved waste of fibre, and since then wonderful advances have been made in the utilization of what had before been lost. Now a well-managed plantation wastes nothing. The seeds furnish vast quantities of valuable oil, and their crushed pulp, —in fact even the mass of discarded hulls too—is used for cattle fodder or made into fertilizers.

The life of just such negro folk as these has been ably described by a writer of their own race, Charles W. Chesnutt. His *Conjure Woman* and short stories like *The Wife of His Youth,* are particularly valuable for anybody who likes to understand his fellow creatures' conditions and problems.

Position 21. Map 1

The oldest town in all our United States territory is down in Florida, and to this day it is full of sights that point thought back to the romantic sixteenth century. Suppose, for instance, we see one such sight for ourselves. The place to which we have to go is marked 22, at St. Augustine.

Position 22. In old St. George St. north to Spanish city gate, St. Augustine, Fla.

The cathedral and the huge modern hotels are only a short distance away behind you at the left. You are now looking north; in old times, before Florida belonged to the United States at all, the Spanish colonists had their own compact little town here, protected all around by earthworks where guards were stationed, and across this northern end by a deep ditch besides, with a high parapet of stone. You see that gateway straight ahead, with its tall, square pillars? That used to be the main entrance to the town. Just beyond it the ditch (or moat) ran east to a strong fort on the Matanzas river and west to the S. Sebastian river. It was crossed by a drawbridge. At night the drawbridge used to be hauled up and that gateway closed with massive timbers. The fort still stands outside the gate yonder, a few rods eastward (right), though it is now merely a curiosity. It could be of no service at all under present-day conditions of artillery service. At one time and another this old town has seen its share of terrific fighting. In Queen Elizabeth's time Sir Francis Drake landed here on his way from the West Indies back to England and pillaged the town in lively pirate fashion. For the next two hundred years English and Spanish were quarreling over this territory. It was not until 1821 that the Spanish flag final-

ly came down, but then it was replaced by the flag of the United States.

That overhanging gallery on the old house at the right is thoroughly Spanish in its style, repeating a custom established here long, long ago—a custom excellently adapted to a sub-tropical land like this where the combination of shade and fresh air is a luxury devoutly to be desired. That grizzled old darky with his rickety ox-wagon is typical too. The Spanish brought African slaves here to work the plantations.

People from other parts of the country often think of Florida chiefly as a winter resort for rich tourists, and indeed tourists and their doings do make a conspicuous element during the fashionable season—late winter and early spring. We ourselves will go about fifty miles farther down the east coast to a race-track unique in its way.

Position 23. Automobiles on the world's finest race track—Ormond-Daytona Beach, Fla.

Thirty miles long is this beautiful beach; its marvelously firm sand is made up chiefly of fragments of coquina shells, pulverized by the ceaseless action of old Ocean during uncounted centuries. The space available for motoring is from three hundred to five hundred feet wide and nature's road bed surpasses everything that human ingenuity has yet produced. It is an ideal place in which to let-out speed, for there is practically no chance for accident if a machine is itself in good condition.

The town of Daytona, famous for its beautiful trees festooned with Spanish moss, lies off at your left on the mainland. This beach is a long island sand-bar sepa-

Position 23. Map 1

rated from Daytona proper by the lagoon known as Halifax river.

Smaller lagoons, creeks and little rivers abound along this beautiful east coast of Florida, making the region one of delight for a lover of landscape beauty. See for instance one such creek near Ormond, only five or six miles from where we stood on the broad sea-beach. The spot is marked 24.

Position 24. "And the palm tree nodded to the mirror in the jungle," Ormond, Fla.

It is a thoroughly characteristic glimpse of inland Florida that you get beside this sleepy bend in the creek. Along streams like this you might paddle day after day, exploring the country—coming here and there upon open, cultivated fields of pineapples, or groves of orange trees; touching here and there at a boat-landing that promises a friendly roof near-by. But much of the way you would find nature still left to her own devices; and the result is a dreamy, tropical tangle of foliage, its beauty doubled by reflection in the placid waters.

Alligators like these ugly fellows used to be the chief land-owners along these banks, but they are less common nowadays since the fashionable world took to using their scaly hides for leather-goods. Years ago some of the most beautiful of our large, native birds were common here too,—the flamingo, the egret and their near relatives; but now they are to be found only far inland in the bewildering, trackless regions of the great swamps.

Never a breath of winter cold is felt here. With

the warm Gulf waters west of Florida and the Gulf Stream raising the Atlantic temperature off the eastern shore, there is no such thing as "a nipping and an eager air." Nature wears summer clothes all the year round. See how it is at the spot marked 25 on our map—it is at Palm Beach, near the famous palace-hotels to which our millionaires flock while snow is flying in the North.

Position 25. Cocoanut trees in the white sands at Palm Beach, Fla.

Again we are on an island, separated from the mainland by another lagoon known as Lake Worth. The ground under your feet is almost all pure white sand, the remains of pulverized coral and coquina shells. It seems almost incredible that such vigorous and prolific tree-growth can be fed on sand and air and water, but you see for yourself how these cocoanut palms thrive on the diet. How full those trees hang with their crop of close-packed nuts! Each of those brownish husks that you see now was originally part of a flower, blossoming in the shelter of a leaf-stalk. Everybody knows how the nuts look, but not everybody realizes that the firm white pulp and the "milk" inside are the tree's provision for feeding its own young. Each nut contains the embryo of a new tree, and, if not interfered with, the germinating plant would absorb that meat and milk during the interval before becoming able to feed on sand, water and Palm Beach's sunshiny air.

We will move westward now to where you see our twenty-sixth position marked at New Orleans beside the Mississippi.

Position 26. The sweetest spot on earth—sugar levee beside the Mississippi, New Orleans, La.

Thousands of square miles of the low ground all around where we stand are practically the work of the river whose waters you see yonder—one of the longest rivers in the world. Century after century, age after age, its waters have been tearing off soil from the banks beside its long road and bringing it down here. Accumulations of such mud have grown and grown until Mother Nature owns here in southern Louisiana immense tracts of "made" land with enormous productive possibilities. The very first distinctly successful sugar plantation in the country was here at New Orleans, where soil and climate are specially favorable to the cane. Now this particular levee on which we stand is one of the principal distributing points for our country's enormous sugar supply—about five billion pounds. The cane raised here in Louisiana averages from ten to twelve per cent sugar; cultivation has made it vastly richer in sugar than the original cane first imported. The cane is ground at mills on the plantations, extracting seventy-five to ninety-five per cent of their sugar. The extracted juice is chemically treated to purify and clarify it, and then artificial evaporation reduces the sugar to crystalline form ready for shipment to refineries.

If you would like to know the poetic and romantic side of life in the Louisiana lowlands where this sugar comes from, George W. Cable's *Bonaventure* will give you real pleasure. The story of simple Acadian life is a masterpiece in its own way.

All the way from here up to Memphis (about five hundred miles) steamers like those out there in the stream move up and down between continuous lines of

levees or protected banks. The original cost of the work was enormous, but it has proven its value. In 1882 freshets damaged almost six hundred miles of bank. Ten years later *less than two miles* suffered in the same districts. The engineering work has been done according to plans prepared by a special United States Government Commission.

If we should continue our journey up the Mississippi, the valleys of the great Ohio river and its tributaries would beckon us up into regions full of attraction, whether it is landscape beauty or the human note that most appeals to us. In our flying tour we can make but few stops. Let one be up among the mountains of eastern Tennessee. Our position is marked there on the general map.

Position 27. Confederate signal station, Lookout Mountain, Chattanooga, Tenn.

You are looking nearly north. The Tennessee river down there, just swinging around the western curve of the "Moccasin Bend," is three hundred feet below you. The long, level ridge straight ahead is Raccoon Mountain, with Walden Ridge beyond. The city of Chattanooga is farther to the east (right) than you can see at this moment, beyond the east side of the Moccasin Bend; Missionary Ridge is still farther away at the east, beyond the town. The battlefield of Chickamauga, where more than thirty-three thousand brave men died in '63, is about seven miles away at your right.

When the Chattanooga campaign began (August 1863) the Confederate forces under Bragg occupied Chattanooga and the Federal forces under Rosecrans were established along the base of the Cumberland

mountains, beyond Walden Ridge over there at the north. Crittenton's corps of the Federal army came down over Raccoon Ridge. The Confederate forces were holding this height where you stand. Hooker led a Federal assault on this point, bringing his men up the steep wooded slopes one November morning while this whole ground was covered by a thick cloud, that swept low in the sky and wrapped itself around the mountain. All the forenoon the mist was so thick up here that people down in that valley below could only hear the sound of cannon and musketry, with now and then a fleeting glimpse of the men who were firing. The Federal victory gained up here went into history as "the battle above the clouds."

The stories written by Mary Murfree ("Charles Egbert Craddock") give a most faithful idea of life among the country people up in this mountainous east end of the state, and neighboring regions. See, for instance her *Where the Battle was Fought, The Prophet of the Great Smoky Mountains, In the Tennessee Mountains,* etc.

This part of the country (the Chattanooga region) has been greatly developed in a business way since war times. Business enterprise and commercial prosperity have strikingly increased. And the growth of the Mississippi river towns has been tremendous. Let us find our next outlook in the most important river-side city on the whole length of the Mississippi.

Position 28. Street scene in the largest city of the Mississippi Valley, St. Louis, Mo.

You are facing north up Broadway from the corner of Chestnut Street. The river is about half a mile

away at your right. The built-up part of the city extends more than five miles along the river. Its whole area (including a number of beautiful parks of which St. Louis people have a right to be proud) is over sixty square miles. This is one of the most important business districts, where you are now. The Custom House and the Post Office are only a few blocks away, ahead at the left; the City Hall and the huge union railway station are a little farther off.

The growth of this place in a little over one hundred years has been something almost incredible. When papers were signed here at St. Louis in 1804, confirming the Louisiana Purchase from France, it was only a shabby little frontier village, the outgrowth of a trading post for traffic with Indians. And for a good many years life in St. Louis and the neighbor towns was like what Mark Twain described in those boy-stories of his about *Tom Sawyer* and *Huckleberry Finn.*

Winston Churchill's deservedly popular novel, *The Crisis* includes graphic picturing of life here, in the days just before the Civil War.

Today more than half a million people are earning a living here. Over twenty railway lines from different parts of the country pull in here to a common centre; some bring enormous quantities of grain, others beef and pork, food-stuffs seemingly enough to feed half the world. For a good many years the city grew chiefly because of the way in which such raw material poured in, to be handled and re-shipped to other parts of the world; manufactured goods of all sorts from the eastern states were received here in return and sent out all through the middle-west and to the Pacific. But St. Louis has outgrown that stage of development and taken up also all sorts of manufacturing industries for

herself, so that she is no longer dependent on the east. Whereas a generation ago the shoes that trod these streets were made of leather tanned and cut and sewed by Massachusetts wage-earners, to-day St. Louis itself is one of the largest shoe-manufacturing centres in the world. And what is true of shoes is true of agricultural tools and machinery. It is true of wooden furniture. It is true of ready made clothing. Much of the money spent in St. Louis shops for a host of such every-day necessities is now poured back into the weekly pay-envelopes of St. Louis factory-workers. And, because the factories are continually enlarging and multiplying, young men and women from the country are coming here in steady streams, settling here and marrying and increasing the count of the population. It will not be many decades before a round million will call the place home.

Now let us get a sight of the transportation facilities that have helped make it possible for two or three dingy log huts full of evil-smelling buffalo-pelts to grow into a large, modern business centre. We will take our stand on the eastern bank of the Mississippi just opposite St. Louis, and look back westwards to its water-front.

Position 29. Ten million dollar bridge 2500 feet long, west over the Mississippi at St. Louis

The river is sweeping southward (left). That stern-wheel steamer is headed up-stream. When the first trading post was established here Indian canoes were the only craft on the river; indeed, the only way of crossing from one bank to the other was by means

of canoes. At that time no such bridge-construction as this had been devised by any human brain. There was no such thing as a railway, a steamboat, a telegraph or a telephone, to say nothing of wireless communication and the mastery of the air. Then came the stage of development which Mark Twain immortalized in his *Life on the Mississippi* and a good many short sketches. (You remember he was for a time a pilot on one of the river steamers, and the pen-name by which the world best knows him is a technical phrase used by a man taking soundings to determine the depth of the channel.) Now that one city over there on the west bank has miles of river frontage where freighters are continually loading and unloading, and you can see for yourself at this moment how the lower level of this gigantic bridge is filled with freight cars rolling across over the river, part of an almost ceaseless procession of carriers.

The bridge itself is worth close study if you are interested in the marvelous side of every-day things. Men began with iron-ore in the breast of the earth, mixed with all sorts of mineral impurities. (See Position 75.) The metal was separated, refined, transformed into steel. (See Positions 79-80.) Each curve of those four parallel arches is made of steel tubes nine inches in diameter. Each section of tube is in itself straight, but the wedge-plates by which they are connected gradually transform their combined lines into the majestic curves, which sustain tremendous weight above and transfer the pressure to immense piers bedded deep below the bottom of the river. There is not much beauty in a single piece of such steel tubes and girders, but the bridge as a whole is a genuinely beautiful creation. Eads, the engineer who designed it,

is known all over the earth by men who know anything about steel construction.

The thousands of live cattle that are shipped east through St. Louis, the tons of beef that pass over the Eads bridge in refrigerator cars, the acres of leather cut up and sewed together every year in St. Louis factories—these come in large part from the ranches of our sunny southwest. Everybody has read stories of cowboy life in Arizona and New Mexico. Would you like to see the real thing—real cowboys at their exciting business? Then move on to southern Arizona, where the number 30 is marked on our general map of the country.

Position 30. Among the thirty thousand cattle at Sierra Bonita ranch—roping a yearling. Arizona

To anyone brought up in a hill-country these endless levels may have something homesick about them; yet when the "tenderfoot" has outlived the homesick period he often learns to take solid satisfaction in the very bigness and openness which at first oppressed him. It is easy to see why a cowboy must be able to stick to his horse all day long and ride as if he were a part of the four-legged creature. Only the man with an automobile craze covers long distances with such unconcern as the fellows on a ranch like this, where miles are reckoned as lightly as the New England farmer reckons rods.

Early summer is the time of the annual "round-up" or taking account of stock. Without such a yearly reckoning a rancher could make only wild guesses at the amount of his property. Gathering in the stock scattered over pastures that cover as much ground as

three or four New England counties is no small "stunt." These men on the tough little ponies have been scouring the range to drive in cattle that have wandered far afield and to cut out (i. e. to sort or separate) those bearing different brands of ownership. Lack of respect for another man's brand is—well, everybody knows western sentiment towards a cattle thief, large or small! The calves,—arrivals since the last round-up—must be cut out from the rest of the herd and branded like their elders. Common custom leaves it to the mother cow to identify her own child. Her testimony would be accepted in opposition to a man's oath.

The cowboy's skill with his lariat is world-famous. A coil of rope has just been flung by the sure hand of that nearest horseman, and a noose at the farther end has caught that surprised beast at the left exactly as he meant it should. (Of course, you realize that we are using an instantaneous stereograph. It was less than a second that the cowboy and the young steer stayed in just the positions where you see them now!) The rope will next be given a few sharp turns around the saddle-horn, and the pony, understanding his own share in the business, will proceed energetically to yank the protesting captive over to a red-hot branding iron that is ready for him:—an unattractive prospect, that's a fact, but it does not hurt long.

The round-up season means need of a good many extra ponies; the distances covered would make too severe a demand on animals that can do the ordinary routine work all right. This necessitates some interesting performances in breaking to saddle the green animals that have been running as wild as young steers. Breaking bronchos is a trade in itself. The work of a professional "broncho-buster" is not recommended as

Position 30. Map 1

a pleasant sight for nervous women. It probably does include some rough handling that is not strictly necessary and that merely adds to the spectacular effect; but perhaps the man who keeps his own life in peril every minute of the day ought to be pardoned just a streak of savagery mixed with the fun of showing off before the rest. And naturally nobody means to do serious harm to a horse while breaking him. Every horse is worth money.

A great many people know Owen Wister's story, *The Virginian,* with its cowboy hero. The scene of the novel was laid up north a good way from here, but the life Owen Wister describes has a good deal in common with life on a ranch like this one; E. Hough's *Story of the Cowboy* is another interesting study of this kind of life out in the open.

Tourists by the southern overland route flock from the trains at Arizona and New Mexico stations to buy baskets and pottery from Indian vendors, but they never see genuinely primitive Indian life. To do that you must leave the railroads behind and take to the wilderness. The spot in northeastern Arizona marked 31 is one of the places where you can get a glimpse of the real thing.

Position 31. At breakfast—typical desert home of Navajo Indians. Arizona

We are facing towards Flagstaff, about fifty miles away beyond those level reaches of yellowish desert sand.

These Navajos are only temporarily encamped here; near-by in the other direction is a gully with a supply of water. Those poplar poles that form the frame of

their hogan or wigwam were dragged here by ponies over the desert. The thatch is sagebrush and coarse, wiry grass. It seems amazing that any vegetation at all can thrive on such meagre food, but this family actually do raise beans and even dwarf corn right in the sand, and they keep a few sheep feeding on the grass in the nearest gully. When the scanty pasturage fails, it is no very serious matter to pull the hogan to pieces and move on to a new location. As you see, there is not much furniture to be moved—a few casks and water-pots and baskets (they trade with the Hopis for their baskets), some rugs and blankets, and the rough, home-made loom of which you get a glimpse inside the hogan—those are about all. Their sheep furnish wool which they spin themselves with a distaff, but they buy at some trading post whatever more they need—gaudily dyed Germantown yarns, dye-stuffs and the heavy cotton yarn used for long warp threads in their blankets. They buy at the traders' too most of the cheap cotton and woolen material which is used for their own clothes. Some trading-post or other is always within reach, and gay calico or shoddy factory goods can always be had in exchange for blankets of their own weaving. Sometimes a squaw like this nearest one will bargain at the post for a few yards of gorgeous print, a needle and thread, sit down on the ground outside the trader's building, tear off the breadths of a new gown, and sew them up on the spot; so that she may put on her fresh finery and wear it home! They do not pay much attention out here to the very latest costume designs in the *Ladies' Home Journal.*

When they have raised all the corn and beans that unfriendly nature will permit, and winter is coming on, these folks will pitch their camp once more in a shel-

tered location, hollowing out the ground so deeply that about half the height of the hogan is below ground-level. They will put on an extra thick thatch of sage brush and plaster over that a thick coat of mud (adobe) making the roof-walls weather-proof. Then the shelter will be really not half bad if you do not care about ventilation,—and these people don't.

Anthropologists say that Navajos like these are not the original occupants of this land of desert and sky but belong naturally much farther north, up nearer the Great Lakes. A good many centuries ago (nobody knows just when or why) their ancestors migrated this way, and their mode of living has been gradually transformed. They cannot keep up the hunting traditions of their far-off grandsires because there is almost nothing to hunt. They long ago learned from other tribes hereabouts how to weave clothing to take the place of skins, and the spread of white men's civilization has given them some other ideas about clothes and food—unfortunately about drink too! There are in all some fifteen thousand Navajos in the country today, practically all living on one large reservation here in Arizona.

F. S. Dellenbaugh's *North Americans of Yesterday* gives interesting and reliable information about the Indians of the southwest.

Much older inhabitants of this part of the country are the various tribes of "Pueblo" or village-dwelling Indians. The early Spanish explorers of New Mexico and Arizona described the curious native towns as "pueblos" and the name has clung to them to this day. You can see a typical pueblo for yourself by pushing on through the Navajo reservation into a Hopi reservation. Our next two positions (32 and 33) are set down on the general map.

Position 31. Map I

Position 32. South to picturesque Wolpi, a mesa village of Hopi Indians. Arizona

It is the vast Painted Desert of northeastern Arizona that you see stretching away to meet the sky in that far off horizon line. You are some seventy miles north of the nearest station on the Santa Fe railway line; to reach here the ordinary traveler has to make his way over the picturesque, arid waste on horseback or in a wagon.

Nowhere else in the world save in our own southwestern states could you find such a curious landscape as this—a great desert plain, flat yellow gray sand under a bell of blue, blue sky, and flat-topped rocky hills, with purple shadows in their hollows, rising here and there from the sandy level like bluff-walled islands standing up out of the sea. They call such an island height a "mesa." In old times nearly seventy such mesas in the land which we now call Arizona and New Mexico had each its Indian village or pueblo, and some of the pueblos were said to be rich. Cortez's men, away down in Mexico, heard from the Mexicans wonderful yarns about "cities" far up here in the interior where there was wealth of silver and jewels to be had for the stealing—or at least for stealing plus some amount of murdering, such as the Spanish pirate explorers of those days were well accustomed to practice. One wonders now whether maybe the Mexicans did not intentionally exaggerate the stories of splendor beyond the wilderness, in order to induce the avaricious and bloodthirsty Europeans to move on!

This village for example, would have given white invaders some trouble before it was captured. You can see how its mud-plastered stone houses are packed closely together on the summit of almost vertical cliffs.

The idea of concentration and defense seems to have guided the original home-makers here, nobody knows how many centuries ago. The men you find here just now in those cheap and commonplace clothes are a curious mixture of the twentieth century with far-back, forgotten ages. Their many-times-great-grandsires were lords of the land, centuries before Columbus sailed westward to find the treasures of India.

Life out here is "simple" in one sense, yet by no means easy. The corn and beans and pumpkins which are needed for winter supplies have to be coaxed into growth near some water-supply in a gully of the desert. Sheep have to be tended. Water has to be brought oftentimes a tiresome distance, and jars for carrying water have themselves to be made and fired. Firewood is scanty and precious; weary miles have sometimes to be traversed in this part of the country to find timber. The big, tightly sewed or woven baskets which the women of this tribe make out of grass and tough yucca stems serve a dozen kinds of purpose—some big ones are used instead of carts or wheelbarrows, for carrying loads; others of various sizes and shapes correspond to our barrels and buckets, jars and store-room boxes—they hold quantities of corn and beans for cold-weather dinners. Still others are for serving the dinner itself when one dish suffices for a whole family. Baskets are out here servants-of-all-work. With a few wooden spoons to supplement them, they answer the purpose of pretty nearly a whole "kitchen-department" section in our own city shops.

In a land like this, where the scanty crops are even more than commonly dependent on the help of timely rains, it is easy to understand how the natural instinct

toward religion has developed elaborate ceremonials for securing the favor of the Spirits of the Rain. At another mesa in this same district, a few miles from Wolpi, you can see the men of the pueblo performing one of their sacred rain dances in the month of June.

Position 33. The Katchina dance to the rain-god —Hopi Indians at Shonghopavi, Arizona

These dancers are all men; the performance, grotesque as it seems, is really in its way a prayer for favorable weather. Those queerly hideous masks of leather and felt which the men wear are painted with blotches and streaks of red, green and white expressly for this one ceremony; when they are to be used next year they will be painted over again. The wearing of them makes the men in a vague sense personify certain supernatural beings—subordinate, intercessory gods who control the coming of the rain. It is extremely difficult to get at the exact idea, partly because of barriers of speech and partly because the ceremony has an intentionally secret element. The men taking part in it are practically members of a secret order, bound to a great deal of reserve about the significance of what they do. Each village of this sort has a *kiwa* or council chamber in which members of the order meet at regular intervals—a sort of lodge-room whose affairs are never discussed with the uninitiated.

Those figures embroidered on the cotton kilts are in one way and another symbolic of clouds, thunder and lightning and other accompaniments of the rain. The head dresses flapping above the painted masks are a fantastic conglomeration of turkey feathers, spruce twigs and shell ornaments. Each dancer, you notice, wears a fox-skin dangling from his belt behind.

The motion of the dance is chiefly a quick up-and-down step, facing first one way and then the other and swaying back and forth, all in time to "music" of their own production. Part of it they make by rattling small pebbles inside those dried gourds which they have in their hands, and part by the rattling of dried sheeps' hoofs inside turtle shells, which are fastened to their ankles.

You can see now quite plainly how the houses are built in two or even three stories, with rough ladders to give access to the upper rooms. The windows that you see here in some of the ground floor rooms are recent innovations; the older custom was to wall-in the ground floor without any doors or windows in the side, providing a trap-door in the flat roof and using the lower rooms for storage. The upper rooms were used for every-day living. A man could ascend his ladder, pull the ladder up after him, and then be quite isolated, so far as concerned an enemy from outside the village—in short the house was made to repeat the idea of the mesa on which it stood, with bare rocky walls and an inhabited top. Such a place could be successfully defended for a long time if food and water were sufficient.

Studies of this and other religious ceremonies of the Hopi folk, made by J. W. Fewkes, were published by the U. S. Government in the sixteenth annual report of the Bureau of Ethnology, Washington, D. C.

Consult our general map once more, and you find that less than one hundred miles west of the Hopi Indian reservation in Arizona is the famous Canyon of the Colorado river. We will go first to the brink of one

of the branches of the Grand Canyon, and look across the gorge to its northern rim.

Position 34. Fathoming depths of a vanished river—Grand Canyon from Hance's Cove, Arizona

The stone which that tourist is about to fling off into space may fall a full thousand feet before it touches anything but invisible air. It almost makes one's head swim to peer over, as we are doing now, into this astounding chasm, this huge, ragged rent of the world's rocky flesh. The gorge directly below you, far down beyond those terraces dotted with scrubby trees, is only an arm of the Canyon proper; that creek is often dry in midsummer. The waters you see there now are hurrying down to still lower levels in the bed of the Colorado itself, over beyond that curiously terraced butte at the right. You do not at this moment see far enough downwards to get any gleam from the Colorado. Its waters are actually *a vertical mile* below this bank where you stand. Think of the distance of a mile on some familiar piece of level ground. Imagine that distance standing on end. So far down, down, down in the bottom of that gigantic sculptured V are at this minute the floods of the river. And the top of the V spreads wider than you first think possible; the Arizona atmosphere is deceptive. It is really more than twelve miles from this bank here over to where you see the opposite rim standing sharp-cut against that lovely sky. And still more difficult to believe is the fact that every inch of these enormous terraces was worn away long ago by the action of running water.

President Jordan of Stanford University explains the river's work in this way:—

Position 34. Map 1

"While mountains were folding and continents taking form, this land lay beneath a warm and shallow sea, an extension of the present Gulf of California. For centuries untold its sands piled up, layer on layer. When at last the uplift of the Sierras changed the sands to dry land then the forces of erosion began and the sands were torn away.

"A mile or more in vertical depth has been stripped away, leaving only flat-topped buttes here and there to testify to the depth of the ancient strata. The flinty limestones, half-way down, interposed their resistance. The swift river from the glacial mountains, which had done this work, narrowed its bounds, and applied itself more strictly to its business. Cutting at last through the flinty stone, it made quick work of the shales beneath it, and, dropping from level to level, it is now at work on the granite core of the earth at the bottom."

Major (J. E.) Powell's book on the *Canyons of the Colorado* gives thrilling accounts of the very first complete exploration of this astounding river-gorge. F. S. Dellenbaugh, who accompanied Powell on a later excursion and who has since become the leading authority on the subject, has written a fascinating volume of his own called *The Romance of the Colorado River.*

Suppose we go down into the Canyon itself by one of the narrow, crooked, steep (terrifyingly narrow and steep) trails, where a horse almost needs claws to stick into the ground in order to save himself and his rider from pitching head-first into the gulf beneath. The necessary zigzagging multiplies the straight distance from rim to river-bed into something many times as long. If you stand beside the river near where Pipe Creek enters, and face up-stream, you get an extraordinary view which the earth can hardly match elsewhere.

Position 35. Beside the Colorado, looking east up to Zoroaster Tower, Grand Canyon, Arizona

The Bright Angel hotel, where so many tourists stay, is about a mile up in the sky over your right shoulder. Directly behind you rise steep rock-terraces and ragged

cliffs like those which you see ahead. You might easily fancy yourself beside a stream walled-in by mountains; it is hard for the mind to realize that this is precisely the reverse of mountain scenery. What look like mountain peaks (and indeed in many parts of the United States a height of those dimensions would be spoken of as a "mountain") are only jagged lumps or knobs projecting from the walls of the Canyon—masses of rock that for some reason resisted the wear-and-tear of the ancient river-currents and so were not torn away and ground into gravel like the more yielding rock all around them. At this moment we cannot see far enough upward to get a sight of the rim of the Canyon away up above those curiously carved monuments of stubborn stone.

It was only in 1889 that white men first had the personal courage plus the scientific enthusiasm to explore this gloomily splendid crevice in the earth's crust. Major Powell's narrative of his first voyage of exploration is full of surprises, hardships, hair-breadth escapes and perils that could not be escaped at all but had to be met. The current in some places runs twenty miles an hour. At that time not a living soul knew what might be found around the next turn of the winding river-bed. There are cataracts, rapids, whirlpools beyond count. You can see, by the rock-strewn shore at your feet, that the stream right here must sometimes be considerably wider and higher than it is now, for most of these loose stones were brought here during a freshet season and dropped temporarily when the volume of water had dwindled. The sight of those loose fragments of rock reminds us too what quantities of such material the river ages ago must have used, as it swept along cutting away the banks and using the debris from

one cutting to help do still more cutting. What an unthinkable amount of time and force have been expended in getting our planet ready for the uses it serves today!

In addition to the volumes by Powell and Dellenbaugh, mentioned at Position 34, those who take this journey will find George Wharton Edwards' *In and around the Grand Canyon* a most enjoyable book. It is all the more interesting when one has already seen the place as we are seeing it now.*

Continuing a journey westward from the Grand Canyon, if one goes by railway in the usual manner there are long and dreary wastes of arid land to cross before a traveler reaches the mountains of southern California. (See the map). Greedy things—those mountains! They reach as far as their rocky arms can reach up into the sky, seize upon all the moisture-laden air that blows over from the Pacific, squeeze the rain out of the clouds and put it in the deep pockets of their Alpine lakes and springs. Years ago they used to waste much of the little they professed to give back to the land on the western side, towards the sea; much of that region used to be only arid, sun-baked plain fit for nothing more than poor pasturage. But now see what has been done with once worthless ground at the town of Riverside.

Position 36. Picking oranges in one of the famous groves at Riverside, Cal.

About 1870 you could have bought all the land you

*To get a much fuller experience of the Grand Canyon than can be secured through these two outlooks, take the full tour. *The Grand Canyon through the Stereoscope*, eighteen positions with a special local guidebook including two patent maps.

wanted around here for three to four dollars an acre. Today if you offered two thousand dollars an acre you would have your offer promptly refused. The transformation of this region into a marvel of productiveness is one of the famous triumphs of modern scientific agriculture. The soil was good; what it needed, in this climate of long, rainless summers, was simply water. Irrigation canals brought water from the Santa Ana river and—behold!—the desert immediately rejoiced and proceeded to "blossom as the rose." Now the irrigation enterprises planned and carried out in California and the neighbor states are actually creating a new earth. Gigantic dams far up in the mountains at this, that and the other point have been made to turn lop-sided, leaky valleys into huge safe-deposit vaults for the storage of a whole year's rain, ready to be drawn off hundreds of miles away, just where and when the farms and fruit-orchards need it.

The oranges raised here are practically all of the navel or seedless variety; the trees are descendants of stock budded from two Brazilian trees with which a Riverside man experimented less than forty years ago. At that time the United States bought a great many oranges from Sicily and southern Italy. Now the home-grown fruit is so good, and Congress has so favored our fruit-growers by putting prohibitive duties on foreign grown oranges, that the business has grown to a size which would have been beyond belief a generation ago. Riverside alone produces every season over two million dollars worth of these fragrant golden balls full of luscious juice.

This is a region of beautiful homes and luxurious comfort, for those who have had both capital and execu-

Position 36. Map I

tive ability for taking advantage of the alluring possibilities of the region. Let us have one more prospect over another celebrated place below the San Bernardino mountains. You are to look off from what used to be a barren sandy ridge—now a bowery mass of roses and shrubbery. They call it out here a "converted mountain."

Position 37. Redlands and its wealth of orange groves from Smiley Heights, Cal.

Here again, where those long lines of orange trees grow, there used to be between May and December nothing but hopelessly dry dirt. Now pipes are laid systematically through the ground, and land owners receive water just as house owners receive gas or electricity in their homes. True, there have been heart breaking tragedies here in southern California, growing out of the failure of water companies or out of greed and craft and plotting of the shrewd to despoil those less shrewd or less well armed for a legal fight. And there is a good deal of southern California which has not yet been reclaimed from its barren first estate. Not everybody has the capital which is the nest-egg of Pacific Coast prosperity. But it looks as if, in time, pretty nearly all the Pacific Coast valleys would be turned into flowery Paradise for some lucky men or other. The people who lead affairs now find no new invention or appliance too good for them. Their houses have the very latest system of electric lighting; their automobiles of the very latest American or French design speed over boulevards of model construction. Life here has begun with standards of luxury which the east reached only after three centuries of gradual and tiresome advance.

Roses like these on the bushes at your feet bloom gaily in mid-winter while Chicago, New York and Boston are being swept by blizzards.—Well, not everybody *can* live in southern California, so why be envious?

Eastern people do not often realize how near our country came to being a part of the kingdom of Spain. We saw reminders of the old Spanish ownership in Florida (Position 22); we come across more along the Pacific borders, where Spanish and Portuguese ships went sailing by in the sixteenth century times of Queen Elizabeth. About the time when our great Revolutionary war was keeping the eastern colonies busy, Spanish missionaries from Mexico toiled northwards through the wilderness, and established at several different places along the California coast little settlements of brethren commissioned to teach the Indian natives the doctrines of the Faith. Our map marks at Santa Barbara the spot where we are to take our next position on the grounds of one of those old Spanish Missions.

Position 38. A pleasant retreat from the world—Santa Barbara Mission Gardens, Cal.

The building at the left with those twin towers and the cross-marked gable is a church which Franciscan monks built about 1786. The other building at right angles to it is where a goodly family of Franciscan monks used to live; now their numbers have dwindled, and only a few wearers of the ancient habit, like the one you see over there by the fountain, remain to do the honors of what was once a really impressive religious and industrial institution. Some of the brethren here have always been expert farmers and gardeners, and in

old times they taught the Indians around here all they knew about raising grain and fruits. They introduced sheep-raising too, and from them the children of the soil learned how to spin and weave, as well as how to pray to the white men's God.

Helen Hunt Jackson's celebrated Indian romance, *Ramona,* is a story whose scene was laid not far from this very Mission. A number of Mrs. Gertrude Atherton's best stories have their scenes laid in this California country.

California is "American" to the last degree in the matter of turning her natural endowment as successfully as possible into cash. When we remember it was the discovery of her gold fields that first called large numbers of colonists from the older states, it is natural enough that the dollar measure should today be as conspicuously emphasized in this western Paradise as it is in the grimy commercial centres of Chicago and St. Louis and New York. Fortunately for all the world certain groves of California's famous "Big Trees" have been set apart safe from the despoiling steel of lumbermen; but outside those forbidden groves giants a thousand years old are being systematically laid low in order that a few men of short lived human-kind may increase their bank-accounts. The tall *sequoia* grows at its best only here near the Pacific, on ground four to six thousand feet above sea-level, so we shall move inland now (see the general map) to a point on a western slope of the Sierra Nevadas where the lumber business is "booming."

Position 39. A monster Sequoia just felled in grove at Converse Basin, Cal.

More than two hundred feet tall this superb column

stood, anchored fast through the centuries by roots running ever deeper and farther through the virgin soil. You see now only part of its length, for work is in progress for taking off the limbs and reducing the upper part of the trunk to sections of a size that can be transported. All sorts of transportation contrivances are in use in a lumber-camp like this,—long strings of mules, traction engines with huge wheels, flumes where logs shoot two or three miles down a mountain-side. There is a profitable market for every foot of first class lumber which comes into a dealer's hands out here in the Pacific coast country. The towns are growing so fast that ownership of land covered with tall, straight, firm-grained trees like this is almost as good as ownership of a gleam of gold in the bed of a creek.

Look at the immense diameter of that trunk now, where relentless saws have ended a process of growth centuries older than American history. It took all the sap that could be spared in a year to add to this tree's girth a new layer of wood the thickness of a sheet of pasteboard. You can figure the years out for yourself if you like. Certainly this must have been a beautiful, live thing, reaching up into the California sunshine and swaying in the California wind, while European civilization was still in the clumsy, rough-and-tumble conditions of the Dark Ages, and long before anybody in Europe suspected the existence of America at all.

The biggest of all the California trees are in park reservations. On the way to Yosemite in the east-central part of the state (see the location of the number 40 on our general map) the Mariposa grove is where most tourists go to see what nature can do when she

Position 39. Map I

sets out to produce monumental marvels in living cell and fibre.

Position 40. Wawona as we drove through it—tree 275 feet tall in Mariposa Grove, Cal.

One of the regulation items on a tourist's program is to drive in this way directly through the base of this living monument. The passage, cut to let the stage-road pass through, is twenty-seven feet long, ten feet high and almost ten feet wide even where it narrows at the top. One might think at first it would be a serious harm to the tree, but Wawona does not seem to mind the hurt any more than an African savage minds having big holes made in his ear lobes. (To tell the truth, a good many people feel that the chopping of this hole through the tree trunk was, as regards taste, a performance about on a par with the African's ear ornamentation; but once done it cannot be undone, any more than the docking of a horse's tail.)

That overcoat of bark, more than a foot thick, is a sort of cinnamon-brown in color. The tree's branches, the nearest one something more than a hundred feet above your head, bear evergreen foliage and cones. The topmost boughs are two hundred and seventy-five feet above this roadway. If you know the height of some church steeple near home you can get a more realizing sense of this particular giant's stature. And Wawona has plenty of company. In this one grove alone there are more than a hundred such giants, many of them with trunks almost half as thick again as this shaft where the coach passes through.

Fifteen miles beyond this Big Tree grove the stage-

route takes you to the marvelous ground of Yosemite valley.

Position 41. El Capitan, a granite cliff thirty-three hundred feet high, Yosemite Valley, Cal.

You are facing nearly northwest. San Francisco and the Pacific are about one hundred and seventy miles away at the west, i. e. off at your left. As you stand here now you are on a shelf of ground near the floor of one of the most extraordinary river valleys on earth. Right behind you rise the craggy, partly wooded slopes of the Cathedral Spires, reaching far skyward above this gleaming mirror of the Merced river; at this point the valley is only half a mile wide below that immense cliff which they call El Capitan (the Captain) *more* than half a mile high. Away up there on its summit you can see trees of good size that look like mere blueberry bushes.

The Grand Canyon in Arizona is on a vaster scale, but its weird beauty has something almost terrifying about it. Here, though heights and depths are almost too great to believe, we have at the same time the serene and peaceful beauty of this little river and its green-bowered banks on which to rest the eyes. The river waters are the remains of snows up on the high Sierras, around us and up eastward between here and Nevada. The Merced, made up by countless contributions of that sort, is now on its way to join the San Joaquin river (some of the most productive ranches in San Joaquin county, central California, will be fed by these very waters), and then go back to the Pacific from which they started by the wind-route.

You have probably noticed how different that smooth, vertical cliff looks from the terraced walls of the

Grand Canyon (Positions 34, 35) where different kinds of rock showed in approximately horizontal layers. The stratified rocks were, we know, given their present form during immensely long geologic periods when the earth's crust was being torn and worn into fine fragments and the fragments being washed down into ocean beds and then pressed into new solid masses. But right here, in El Capitan's granite cliff, it is part of the original stuff of the earth that you see laid bare—the primeval material of the earth's body, just as it cooled when our planet ceased to be a ball of liquid fire. Geologists are not in complete agreement as to the way in which this deep pocket came to be torn right here, but probably the crack was caused mainly by some earthquake ages upon ages ago.

The "crack" is only about six miles long, and it varies from half a mile to a mile and a half in width. Eastward up the valley, narrow trails, zigzagging over the mountain-sides, keep giving magnificent views to tourists who ride or tramp through the reservation. We ourselves will pause for an outlook at one of the favorite spots on the trail up to Glacier Point. We shall face north.

Position 42. Yosemite Falls from Glacier Point trail, high above Yosemite Valley, Cal.

It takes a sure-footed animal to bring his rider safely up a trail like this and down again. A three or four foot wide path, often rising or descending at an angle of forty-five degrees, with an impassable wall rising a thousand feet or more on one hand and a precipice dropping a thousand feet or more on the other hand, is not a place for either a skittish beast or a nervous

rider. As a matter of fact it is perfectly safe, though it does give you a feeling as if you were in an aeroplane, when you peer over the dizzy edge of this cliff and look down on the tops of those trees beside the Merced river —the same river which you saw below El Capitan.

Over there ahead, something more than a mile away on the north side of the valley, is one of the cascades that bring the mountain snows down to the Merced. Up on the skyey heights where that flood was born there are only rocks and ice, snow and wind and sunshine,—no soil, no vegetable mould, nothing at all to dim the crystal purity of the water as it rushes down over the edge of that precipice. That first leap it makes is sixteen hundred feet, and when the flood strikes the lap of the mountain it is almost as if the stream exploded into billions of infinitesimal sparkles, blowing here and there in every draught of wind. Then after a while you see where the spray gathers once more into drops, and the drops unite their forces to reproduce the shattered stream, and a great volume of water makes the second leap down into the Merced valley.

The trail leads on higher and higher and higher till it reaches a point on the rim of the valley almost a mile straight above the bed of the Merced River. There we shall look a little west of north.

Position 43. Nearly a mile straight down and only a step. Glacier Point, Yosemite Valley, Cal.

Those are the same falls which we saw from our last position, but now we are so much higher than before, that instead of looking up to where the waters were apparently sliding out of the sky we actually look down

upon that very same precipice. And still the waters are dashing themselves into mere misty wreaths of spray and then re-materializing for their second plunge into the valley far, far down below this eyrie in the skies. This is the sort of thing that eagles might see every day when they soar over mountain tops, but rarely do human eyes have such a feast spread before them. It is almost like being off the earth entirely and looking down to it from the edge of a drifting cloud. See how tiny the tall fir trees look on the lower slopes of that opposite mountain, and down in the valley.

It was only as recently as 1851 that white men had their first glimpse of this marvelous gorge. They were early settlers in the gold regions who were tracking a band of Indian marauders. The Indians had taken to hiding places out here in this pocket between the mountains and the settlers followed. One of the party afterwards described the amazement with which he gradually realized that this was no ordinary mountain valley but such a marvel as would set the whole civilized world to talking:

> "I had left the trail and my horse, and wallowed through the snow alone to a projecting granite rock. So interested was I in the scene before me that my comrades all moved on, and I would soon have been left alone. My situation attracted the attention of Major Savage, who hailed me from the trail below with, 'You had better wake up from that dream up there, or you may lose your hair. I have no faith in Ten-ai-ya's statement that there are no Indians around here—some of the murdering devils may be lurking along this trail to pick up stragglers.' "

When the party went back with accounts of what they had seen their listeners took a good deal of salt with the story. It was not until four years later that J. M. Hutchings came out here to see the place for himself, and judge whether there was enough in it to be worth writing-up for the *California* magazine. Curious, isn't it, how easily people are gulled by made-up

lies and how hard it sometimes is to get them to believe plain truth?

Before we ourselves go on, notice the overhanging rock on which that tourist is standing. There is another beside it. They are loose boulders of material different from the valley walls, but like the rock formation at a place about twelve miles away. Geologists see in them (and in the smooth-scraped surface of many of the ledges hereabouts) evidence that this whole region was once covered with sheets of glacier-ice, slowly sliding and settling from higher to lover levels. These boulders were brought here bedded in the lower surface of a great mass of glacier ice and left behind when the ice melted. Glacial action without any doubt had a share in the formation of the valley as a whole.

Just one more look a little farther still up the valley, at another position on this same mountain trail, two or three miles from Glacier Point. We shall face a little west of north.

Position 44. Amid majestic heights and chasms of Yosemite Valley, Cal.

Our other outlooks were all from positions farther to the west (left). We are standing now on the eastern shoulder of the mountain they call Sentinel Dome, and though we are not near its summit we are still over seven thousand feet above sea-level. It is North Dome that you see piling its granite bulk higher still over there at the other side of the strange chasm. If you were to go to the very verge of this narrow bracket of rock and earth, and peer over the edge, you would get another sight of the green floor of the valley alongside

the Merced river. From here you can see in the distance at the right some of the great snow-fields, where not even midsummer's sunshine can melt all the compacted accumulations of the rest of the year.

Look at the bald patches on North Dome, polished like the bare scalp of the earth's grandpa, (that fuzz of trees along the sky-line suggests hair even though we know the trees are really well-grown firs), and you see again why geologists know that all this region was once scraped over with sheets of ice. The long scratches on those nearer cliffs at the left look as if they had been treated with some titanic equivalent of sand-paper; and indeed that was what the ice-sheet amounted to, its lower surface stuck full of sharp fragments of rock, which it had broken from other ledges during its slow, dragging, downward movement over the land.*

For contrast of our impressions, we will go down now to San Francisco and see how California faces the broadest of all the oceans. We will take our stand not within the city proper, overlooking the land-locked bay, but on a sea-beach down west of the hills over which the city is built.

Position 45. Cliff House and Seal Rocks, W.N.W. from the sea-beach, San Francisco

You are facing a little north of west, with the beach reaching off behind you, a long ribbon of sand bordered with breaking waves. At your right rise the bluffs

*For a fuller knowledge of this wonderful region, take the tour *Yosemite Valley Through the Stereoscope*, giving outlooks from twenty-four successive positions. A special guidebook is provided, with a patent map that identifies all the landmarks.

known as Sutro Heights. That building is a hotel popular with pleasure seekers who want sea breezes, a heavenly view and a good dinner all combined. The city itself lies ahead and off at the right, beyond a big park. The famous Golden Gate, where vessels enter San Francisco bay, is ahead beyond the hotel. The shore along here is a favorite playground for seals, and the clumsy, good-natured things are often seen sunning themselves on those rocks yonder, below the hotel windows, after a frolic in the water. A cable line across the Pacific ocean has its eastern terminal at this beach, only a few rods south (left) of where you see the men carting sea-weed.

If you were to sail straight on and on and on in the direction in which you are facing, you would find nothing but sea and sky, sky and sea, till you reached the bleak shores of Kamschatka. To reach Japan you would need to turn more toward the left and then steer due west. Yokohama, where so many American tourists land, is in very nearly the same latitude as San Francisco. The Orient is our next-door neighbor on this side of the house. In the fifteenth century the dream of European monarchs and statesmen was to establish a connection between the home kingdoms and the Orient. The discoveries of Columbus, of Magellan, of Vasco da Gama and many another gallant sailor, were inspired by visions of the East, rolling in riches and waiting for her heaven-sent master to arrive. And here we Americans live to-day with the "East" only a few days distance *westward* across a perfectly mapped sea!

Robert Louis Stevenson years ago put into words the romantic suggestiveness of this very ground and its Pacific outlook:—

Position 45. Map I

> "I stood there on the extreme shore of the West and of to-day. Seventeen hundred years ago, and seven thousand miles to the east, the legionaries stood perhaps upon the walls of Antoninus, and looked northward toward the mountains of the Picts. For all the interval of time and space, I, when I looked from the Cliff House on the broad Pacific, was that man's heir and analogue—each of us standing on the verge of the Roman Empire (or, as we now call it, Western Civilization), each of us gazing onward into zones unromanized."

The bay of San Francisco is, we know, around a curve of the shore beyond the Cliff House. Our next position will be on the deck of a ferry-boat crossing the bay.

Position 46. The paradise of the sea gulls—east across San Francisco Bay to Oakland, Cal.

You are facing east. San Francisco is behind you. The long foamy wake of the boat shows how it has come across from Oakland where you see the gleam of some white buildings on the water-front. Berkeley is over on that distant shore a little farther north (left) than you can see at this moment. The bay is only six miles wide in the direction in which you are facing, but it reaches much farther to the right and left, indeed it is over twenty-five miles long north and south, and all so sheltered by the surrounding land that the navies of the world might anchor here in safety. The mile-wide strait known as the Golden Gate is the one entrance-way from the ocean and it is protected by up-to-date fortifications. The navies of the world could never get in here unless Uncle Sam was willing to hold the door open!

As it is, pretty nearly all the civilized world sends ships here on errands of trade. Some of the largest and finest steamships that ever ploughed the ocean come in here with every sort of curious freight from Oriental ports, and go out again loaded to their limit with American goods for Oriental buyers. Away back in

1835 when William Henry Dana's *Two Years Before the Mast* was being read in New York and Boston, they heard of this bay and of the village of Yerba Buena on its shore. Neither Dana, who wrote the tale of adventure, nor the eastern stay-at-homes who read the tale, could possibly have guessed what dramatically exciting doings were to transform sleepy little Yerba Buena into San Francisco. It was the discovery of gold up in that country beyond the bay which called men hurrying by sea and by land to get here and dig for the treasures richer than the "find" in a fairy-story. To-day, though gold mines and silver mines still keep the United States government busy purifying and certifying their dazzling out-put, the farmer and fruit-grower are even more typically Californian than the miner. Raisins, prunes, asparagus, oranges, lemons—these are the forms that gold nuggets oftener take nowadays.

But Harte's short stories of fifty and sixty years ago in the gold-fever days are full of fascination still though the sort of life which they describe is no longer lived here. Read, for instance *The Luck of Roaring Camp, Stories of the Sierras,* etc. Joaquin Miller's *'49—The Gold-seekers of the Sierras* gives a vivid idea of the experiences of the miners who poured into California at that time. Edwin Markham (the author of "The Man with the Hoe") contributed an interesting article on San Francisco to a volume published by Putnam on *The Historic Towns of the Western States*—a chapter well worth reading.

The Coast Range in northern California includes the mountains nearest to the sea. East of them is a long valley where the Sacramento river and its tributaries carry off the rainfall from the heights. Then between

Position 46. Map I

the Sacramento valley—now being made into an agricultural paradise—and the sage-brush deserts of Nevada stands another long mountain range, the Sierra Nevada. The mountains we saw overlooking Yosemite belonged to the Sierra Nevada range.

One of the most noble peaks in that whole range is away up in northern California. We will see it from a point near the railway twelve miles from Shasta's base.

Position 47. Looking through summer-clad boughs to grand snow-capped Mt. Shasta, Cal.

In earlier geologic ages, before humanity had appeared on the scene hereabouts, that splendid, glittering mass of snow-sheeted rock was an active volcano. A good part of the rock-formation which you might study in the ridge up around the summit is lava, like that around the craters of Etna and Vesuvius, though it is hard to realize that it was once fiery liquid stuff, boiling over and dripping down the mountainside. There are still hot springs away up there among those snow-drifted gorges, and here and there clefts in the rock, where sulphurous vapors leak upward from fires that nature has nearly smothered far, far, down below.

There are several different trails by which the summit can be reached; some are fairly easy, others offer perils enough to satisfy a hardened alpinist's thirst for adventure. And when you do stand on the topmost ridge you are more than fourteen thousand feet above sea level,—as high as many of the most celebrated peaks in the Swiss Alps.

How many eastern people realize the extent of our states bordering the Pacific? A man is amazed, when

he comes out here and measures the land by traveling over it, to find that Oregon for example covers more ground than all the New England states added together, plus New York state, New Jersey and Delaware. It is a land of wonderfully mild, equable climate and productive soil, and Oregon ranchers raise crops whose report sounds to eastern ears like grotesque exaggeration. Quantities of the best wheat, potatoes, apples and cherries that can be grown anywhere are produced in the northern part of Oregon in the valley of the Columbia river and its tributaries. The Columbia itself is one of the noblest rivers in the whole country—so superb a water-way that shrewd old John Jacob Astor believed it could be made into a sort of easy highroad for the goddess of Fortune. We will see it from beside the tracks of the Oregon Railroad and Navigation Company.

Position 48. Picturesque grandeur of Columbia river, west past the Pillars of Hercules, Oregon

We are on the south bank facing westward toward Portland. That train is east-bound on its way to The Dalles. For two hundred miles along this part of the river, railway passengers have superb scenery continually before their eyes. The Columbia is always in sight and the banks are rich in picturesque cliffs. Every little while there is a vista of the snowy heights of the Cascade mountains up at the south (left). Traveling over these rails on a day train means having one of the most beautiful journeys that the United States can offer.

The river itself has helped make (and now helps to keep productive) a tremendous area of country up here in the northwest. It takes-in watery contributions from seven states of the Union and from British Co-

lumbia. It was only a little over a hundred years ago (1805) that Lewis and Clark on their famous exploring expedition followed this current down to the Pacific. Before the half-century had passed a little stern-wheel steamer had begun to run from the seaport up-stream to get the furs collected at different points along-shore. Astor, before the days of railway transportation, had plans for establishing a comparatively short overland route from the headwaters of the Mississippi river system to the headwaters of the Columbia (they called it the "Oregon" river in early times), and so making almost continuous water communication between the eastern United States and the Asiatic Orient. It was a magnificent scheme too, and might have been put through if the world had not so soon been given the epoch-making idea of steam-driven locomotives, hauling cars over rails.

Today, even with railways available, the river is used by freight and passenger steamers a thousand miles up from the Pacific. There are dangerous rapids a few miles above here (behind you) but a ship canal five miles long, over on the Washington side of the stream, takes craft through. The country all about here is being developed at an amazing rate in the line of farming and fruit-growing, and the prospect is that the Columbia and the railways also will have steadily increasing work to do for hundreds of years to come.

Oliver Wendell Holmes' poem *The Two Streams* takes for its text the rise of this very river (he calls it the Oregon), close by the source of another river that is sent by the slope of the land down to the Arctic ocean.

Other craft besides steamers are to be seen descending the river.

Position 49. Stupendous log-raft containing millions of feet of timber, Columbia River

This is one of the most ingenious freight schemes ever devised. The logs were felled miles above here in mountain-side timber-lands. They were slid down to the river on toboggan-chutes of skids or shot down through long flumes, then bound into this gigantic cigar-shaped bundle to be towed to San Francisco. You see only about half the length of the raft—it extends almost as far behind as before you.

Much of the best timber in the world goes through the hands of Oregon lumbermen. Spruces, firs and cedars out here in the northwest grow three to five times as big as they do in the Maine or Minnesota woods, and so regular and fine in grain that the beams and boards made from them are positively things of beauty. A few years ago a fir tree felled in Whatcom county, Washington, was *four hundred and sixty-five feet tall* with two hundred and twenty feet of straight trunk below its first branch! That one tree yielded as much building material as twenty acres of what would be considered good timber land in New England. Oregon could keep up the present program three or four hundred years longer. To the big-hearted, free-handed westerner it sometimes seems petty and niggardly to do much thinking ahead when nature seems so endlessly lavish of supplies; but in real truth even this rich northwest would be deforested in time, and the national movement for looking ahead and giving future Americans a fair show has begun none too soon.

One of the most favored garden-spots in Uncle Sam's domain is the valley of the Hood river, which joins the Columbia on the Oregon side about half way between

Portland and the Dalles. It is farther north than Duluth, Minnesota,—in about the same latitude as Canadian Lake St. John where a few weeks of sunshiny midsummer comfort are balanced by months of snow-drifts and fur-overcoats. Climate is after all only to a small extent a matter of mere latitude. We will take our stand in a Hood river fruit farm and face northward.

Position 50. Irrigating a strawberry field; Hood River Valley, north to Mt. Adams, Oregon

You are looking down the valley, across the Columbia (though the larger river is not in sight) and up the Salmon river valley on the Washington side. That height which rises above the roof of one of the farm buildings is Mt. Adams in Yakima county, Washington, more than twelve thousand feet high.

When you hear stories (true stories, too) about seventy-five carloads of strawberries being shipped in one season from this Hood river valley, you can now understand how they do it. The soil is perfect; the climate here is so genial that roses bloom all winter; and no up-to-date fruit grower in this part of the world dreams of leaving himself at the mercy of the skies in the matter of water. We saw on the Hopi Indian reservation in Arizona (Position 33) how the original Americans still try to get rain by performing ceremonial dances in honor of the Spirits of the Clouds. Out here where you are now, imported Americans—the descendants of English, Irish, German and Scandinavian immigrants—arrest rivers in their course and make the over-fed Pacific Ocean wait till the roots of their apple trees and strawberry vines have had abundant drink. This one contrast between the native Indian way of working and

the twentieth century American way of working is a pretty good answer to the question "What right has the white man to oust the red man?" If the earth's resources were meant to be utilized, it would seem as if they belonged to the man whose brains are equal to utilizing them.

The soil here is of tremendous depth, largely of volcanic origin, and so rich that it will need no fertilizing of any kind for generations to come. Land like this at your feet produces five to eight thousand pounds of strawberries to the acre, and cold-storage cars hurry the fruit eastward in time to command big prices. Meanwhile, with every sort of common edible grown at a minimum of labor and expense, the fortunate people located here seem to be granted an ideal foundation for a living. It is the very opposite of what the Pilgrim Fathers had to meet, when they wrung scanty food out of the bleak hills and sandy levels of the Massachusetts sea-shore. Some time, in centuries to come, philosophic historians will doubtless be comparing the types of civilization that grew up at the extreme ends of the country, and it will be interesting reading for posterity.

The Hood river valley takes its name from a peak whose drainage it carries off, a glorious peak of the Cascade range, worth in itself a long journey.

Position 51. Where the Cascade Mountains wear eternal snow, Mt. Hood, Oregon

Pilgrims through storied Switzerland hardly see anything more beautiful than our own land has to show. The only difference is that in Europe hundreds and hundreds and hundreds of years of human history are welded with the scenery. The lofty passes of the Alps

Positions 50, 51. Map 1

remind a traveler of Hannibal and Napoleon. Mountain-walled Lake Lucerne is eloquent of the mediæval legends about William Tell and Switzerland's struggle for freedom. Out here in our new northwest, history with all its spiritual significance has yet to be lived by human souls.

"The groves were God's first temples." Can't you feel, in the vigorous upward reach of all those trees and the majestic splendor of that icy cone piercing the sky, something like the element that little man tries to put into the soaring arches of a stone cathedral and the soaring tones of a Hallelujah Chorus? In Palestine across the sea centuries ago human souls found a message in the mountains. "I will lift mine eyes unto the hills whence cometh my help." What development of human life can be too great and high to expect in a land like our own, as fast as we wake up to the full inner reality of what lies around us?

Over in the Yosemite Valley (Positions 43, 44) we saw marks of prehistoric glaciers. But the work of such mighty masses of ice was not finished in prehistoric times. Glaciers are still at their appointed task, helping to make over a dead world of mere mineral materials into something which plant life and animal life can utilize. It was only about half a hundred years ago that geologists learned to spell out the divine significance of glaciers in our world economy, but now their story is fairly well popularized. And we Americans do not have to cross the ocean to study glaciers at first-hand. We can see them here at home. Look, for instance, at one rugged side of Mt. Tacoma in southwestern Washington, where the general map marks our fifty-second standpoint.

Position 51. Map I

Position 52. Perpetual winter—Mt. Tacoma and Nisqually Glacier, Washington

Some call it Tacoma, some call it Rainier—it is all the same peak, and over fourteen thousand feet high—that is about twice the altitude of Mt. Washington, the pride of New England's White Mountains.

What we want to look at just now is that mass of hard compacted snow which fills the steep, sloping hollow between those two shoulders of the mountain. Part of it is glittering white, part is veiled with delicate purplish shadows, part is grayed with rock débris. Glacier ice is, you know, formed not like the freezing of water in a pond, but by the pressure of enormous accumulations of snow. The weight of the snow itself squeezes out the air and packs the original snow crystals into a solid mass. The valley that you see over there on the mountain-side is much deeper than it looks; the compacted ice-sheet fills the invisible bed of the hollow just as water fills a river bed, and under the heat of the midsummer sunshine the lowest parts of the ice-sheet are melting to form mountain brooks. Slowly, steadily, the whole irregular mass of ice is sliding and scraping down the mountain, but so slowly that the clouds sweeping over its summit have time to keep renewing their snow-storm contributions; so the process goes on century after century. As the vast mass scrapes its way downward, it ploughs and tears and rasps off fragments from the rocks along its way, grinding them smaller as it goes along. Then it hands them over to the mountain brooks, and the mountain brooks hand them over (still smaller) to the rivers, and the rivers break them up into gravel. Of the gravel certain kinds of plant life make their food; and the remains of decayed plant life, mixed with the

disintegrated gravel, are what we call soil. And that (multiplied by only Heaven knows how many thousands of years and helped out by contributions of lava from ancient volcanoes) is the Genesis of vast tracts of rich bottom-lands, about which real-estate owners of the twentieth century tell their marvelous stories.

It fairly makes one's head whirl to think of the length of time the Lord has taken to get this world ready for humanity to take up His work!

The thickness of glacier ice is something amazing to one who has never seen it. Take a look on another glacier sheeting part of this same mountain.

Position 53. Perilous climbing over ice-crags of Stevens Glacier, Mt. Tacoma, Washington

The ugly possibilities about glacier-climbing lie largely in the deep crevasses (cracks) made when some tremendous strain comes on the down-sliding ice sheet, and it tears open, making a deep, jagged rent with walls of sinister smoothness. To slip into such a crack ten feet deep might be a good joke, but if the crevasse happens to be from fifty to a hundred feet deep it is a different story. You notice that these mountain climbers are equipped with the regulation alpine ropes, —four to six men to a rope. The cordage is a sort specially made for this purpose and almost as strong as steel. If one of these fellows should lose his footing on a slope of forty-five degrees or on the edge of a hundred foot chasm, he need be none the worse. The others would merely re-enforce their own foothold by striking their alpenstocks well into the ice, and then pull him up to safety.

Position 53. Map 1

Now to go down again to the comfortable homestead levels. You have heard stories about wheat-raising in this part of the world, and perhaps you thought it necessary to make a big discount from the tale as it was told. Well, no. Look for yourself, on a Washington ranch, not far from Walla Walla, in the southeastern part of the state. The spot where you are to stand is marked 54 on the general map.

Position 54. Evolution of the sickle and flail—a thirty-three-horse harvester, Walla Walla, Wash.

The Blue mountains are off at your right. Spokane is about one hundred and twenty-five miles away at the northeast, the direction in which you are facing.

The farmers of the original thirteen eastern colonies, who laboriously chopped down forests, pulled up tree-stumps and painfully cultivated little patches of grain for the bread of their own hungry households, never could have imagined the possibility of farming on this grand, western scale. Here it is a question not of square rods but of square miles; not of bushels but of car-loads; not of feeding one's own children alone but of feeding the teeming population of huge cities remote from the sources of food—perhaps in America, perhaps away around at the other side of the globe.

A "combined harvester" like the one you find here at work now includes in the one machine a header, thresher, separator, fanning-mill and sacker. It will cut from sixty to one hundred and twenty-five acres in a day and thresh from seventeen hundred to two thousand bushels as it moves along over the field; sometimes a traction engine is used instead of horses. In this even, dry climate it is not often necessary to protect the harvested grain from the weather. Sometimes at a

convenient shipping centre you might see over a hundred thousand sacks of wheat at once, piled on a timber flooring to keep it off the ground, waiting for the needed freight cars. Wheat can profitably be sown any month in the year, and—perhaps most extraordinary of all—two, three, even four crops have been harvested in this particular district near Walla Walla, *from one sowing!* Nature (as they know her in Washington) gives with both arms full when she gets an invitation.

Eastward now we move on across the country. Our next pause is to be in a region as different as can well be imagined from a western wheat-farm,—the weird, volcanic wonderland of Yellowstone Park. If you need to refresh your memory as to the exact location of the park, you can find it on the general map.

Position 55. The most famous sight in Yellowstone Park—"Old Faithful" in eruption 180 feet

We are at the northwest corner of Wyoming within a big reservation set off by Congress (in 1872) for a national park. Fifty years ago almost nobody had heard of this region of marvels. Now tourists pour in here every summer from all parts of the country.

This is the best known of more than a hundred hot springs within the park limits. The ground under your feet is covered with a crusty stuff that crunches and crumbles. If you had been here a few minutes earlier you would have seen no giant fountain at all, but merely a mound-shaped mass of yellowish stone (geyserite) enclosing an irregular opening in the earth, somewhat as a well-curb might enclose a well. Once in about sixty-five minutes, day after day, year after year, this same thing happens:—a rumble . . . a rush

. . . an enormous volume of boiling water shoots upward almost two hundred feet in a scalding, steaming column such as you see now, waving banners of fiery mist at the sky and then falling like rain around the vent-hole through which it burst. It keeps "playing" for about five minutes, then the motive power seems to give out and the fountain dwindles and disappears. All that you would find left to tell the tale would be the dripping lips of the crater and the sloppy pools where a million gallons or so of scalding water have left their weird remainder on the ground. The crusty stuff underfoot is made up of matter which had been dissolved in the waters and which was left behind when the pools evaporated.

Small wonder it is that the first accounts of happenings in this region were treated with contempt as impossible yarns. One of the first white men who did try to tell other people about it was a man named Colter who had been with the Lewis and Clark expedition down the Columbia river and was returning eastward. The people who listened to him used afterwards to allude to this land as "Colter's Hell," and considered it about as real as the home of Jack the Giant-killer.

Geologists now say, that, long before human life began, this part of the earth's crust must have been many times transformed; it was bulged out of shape by the pressure of fiery liquid masses boiling below it; torn, and patched-up; dented-in to form pockets for primeval seas; turned inside-out by new upheavals from within the earth. At present—this is the scientist's explanation,—the ground here is full of immensely deep wells into which surface waters percolate, wells so deep that the rock walls at their lower extremities are kept fearfully hot by connection with the still fluid, fiery heart

of our earth. The usual explanation of intermittent spouting, such as "Old Faithful" exhibits, is that in such pockets there happens to be an exceptionally deep, heavy column of water, and its weight, pressing on the water lower down, prevents that lower water from boiling and turning into steam at the usual temperature. In fact the upper part of the mass of water acts like a cork in the spout of your teakettle. The pressure of the super-heated and confined water grows stronger and stronger till it blows out the cork with its explosion, frees its superlatively "hot stuff" with a mighty explosive rush, and then settles down again, to repeat the process as soon as conditions are ripe.

There are great tracts of the park reservation where you see no sign of present volcanic activity at all, though the geologist's expert eye might recognize certain of the outcropping pasture rocks as of ancient volcanic origin. And such pastures are hardly less interesting than the geysers themselves, because of their four-footed population.

Position 56. Wild buffalo at home on a sunny slope in Yellowstone Park

You are near the Mammoth Hot Springs and the popular tourist hotel, yet these wild creatures browse quite unconcernedly on the grass and pasture bushes. Of course they are rigorously protected by law and they seem to know it. Nobody ever molests one of them, unless some reprobate with a gun takes big chances of arrest and imprisonment in order to get cash to spend on drink in the nearest town. Thousands and thousands (some say millions) of such magnificent beasts used to roam the open country west of the Mississippi river only

a hundred years ago, feeding on the tough grass and drinking from sheltered runs. Old hunters and frontiersmen used to tell great tales of the dramatic stamping and tramping and charging of a herd of buffalo when excited over some social and political rivalry in their own ranks. The Indians used great quantities of their thick hides, covered with shaggy, more or less curly brown hair. It was a mighty cold wind that could pierce a buffalo pelt and get at any sort of flesh beneath it. The first white hunters and trappers were quick to see that a handsome profit could be made selling such pelts, so the opening of the middle west came to mean buffalo slaughter on a stupendous scale. Whole herds were butchered and skinned, the carcasses left on the prairie, the pelts sold at St. Louis and other trading-posts, then shipped down the Mississippi river. (Recall Position 29.)

There used to be a large variety of big game in this part of the country and efforts are being made now to encourage their multiplication. For instance, in the woods near the Fountain Hotel, especially towards night, you may be lucky enough to see this sight.

Position 57. Grizzly bear in the wooded wilderness of Yellowstone Park

It is one of the original proprietors of the Park that you meet here; he has relatives still in possession of old homestead lands all through the Rockies. This particular specimen of *ursus horribilis,* as the zoologies call him, is about six feet long, with enormous strength of paw, claw and tooth if he has a fancy to use it. Roosevelt's *Hunting Trips of a Ranchman* and *The Wilderness Hunter* give spirited accounts of adven-

tures met while out after just such beasts and their wild neighbors in Dakota. Here in the Park, of course, they are protected, and they have become unromantically accustomed to the neighborhood of human-kind, so that they even prowl around the hotel kitchen in search of eatable refuse from the cook's department!

Mrs. Custer (the widow of General Custer of romantic memory) in her reminiscences of life at a western army post, *Boots and Saddles,* includes suggestive mention of the wild creatures common on our Rocky Mountain frontier a generation ago. The book is full of interest and delightfully written.

Weeks might be spent exploring Yellowstone Park alone, but we will content ourselves with a look at just one more of the sights every tourist here wants to see—the wonderful way in which the hot floods of an ancient river ate their way through the rocks trying to escape to the far distant sea.

Position 58. Down the river and canyon, N. E. from brink of the Lower Falls, Yellowstone Park

You are near the middle of the Park reservation, facing towards Montana and North Dakota and far-off Manitoba. Just behind you the Yellowstone river has made two leaps to celebrate the fact that it has really begun its seaward journey. You are standing at the edge of the second or Lower Falls; the waters which you see racing madly along down there in the bottom of the gorge are still dizzy with foam after jumping more than three hundred feet; they will keep on till they join the Missouri and then the Mississippi, to sweep past the levees into the sunshiny rest of the Great Gulf of Mexico far away at the south.

Prehistoric volcanoes boiled over in this neighborhood, leaving masses of lava rock where the boiling stuff cooled. Then fiercely hot water from giant springs came pouring along and tore their way through the lava with a mighty force which we can only guess at, seeing the marks it left behind. And these are the marks—the thousand-foot walls of this gorge, worn and torn almost as if a corrosive acid bath had eaten them away. The present river has nothing especially uncanny about it. The waters are of ordinary temperature. But it has the effect of a magic stream in some queer fairy story, for the weathered surfaces of the ragged rocks which wall it in are colored almost unbelievably in yellows and burnt orange, tans, old gold and russet reds, like a petrified sunset.*

Perhaps you have some curiosity to see, right in the midst of our American civilization, the religious and social stronghold of a queer, heterodox sect which is steadily growing and prospering in spite of the contemptuous disapproval of the rest of the country.

Position 59. The pride of the Mormons—Temple and Tabernacle at Salt Lake City, Utha

This many-spired building and the low one at the left, with the egg-shaped roof, together form the focus of one of the most fantastic faiths that ever were held by civilized people. The religion was started in 1830 in a village in New York state, when a man named

*For a fuller personal experience of this land of wonders, take the tour *Yellowstone Park through the Stereoscope* giving chances to look off from thirty different positions. A special guidebook is provided, with a patent map identifying all the landmarks.

Joseph Smith claimed that an angel sent from heaven had revealed to him the existence of certain metal plates covered with ancient inscriptions and buried in the ground—"the Book of the Prophet Mormon" he called it. The Book itself was mainly a rambling narrative, not a code of religious doctrines; but doctrines to go with it were soon put in shape and a movement began to reverence the Book as a special, Divine revelation. The gray granite Temple here, in its design, is quite suggestive of the old Hebrew Temple at Jerusalem, and with good reason, for Joseph Smith's followers believe they are the Lord's "chosen people" and they call outsiders "Gentiles" just as the Jews do. Indeed this Temple is regarded as too holy to be profaned by the entrance of Gentile feet, though unbelievers may enter the Tabernacle if they choose.

It was in 1847 that the Mormon leader known as Brigham Young led a troop of the devotees out here to Utah and established a settlement meant to be exclusively their own. It has now a population of over fifty thousand, but that number does include a good many Gentiles who swallow their prejudices for the sake of sharing in the business opportunities of the place. Since a great transcontinental railway line now passes through, there are excellent chances to make money here. The outlying Mormon villages and towns are prosperous too. However objectionable some doctrines of the faith may be, brethren and sisters are taught and trained to work with amazing effectiveness, and the intelligent ones have usually a marked gift for money making.

The taking of many wives used to be a very profitable custom, for the wives (mostly uneducated women) were utilized like the women in the ancient Hebrew house-

holds, for doing all sorts of heavy work indoors and out of doors—really servants on board wages. Polygamy is at present discountenanced by the leaders of the Mormon Church and technically it is a thing of the past; meanwhile Mormonism has grown till it has over three hundred thousand adherents and it is still growing. Human nature is of strange composition.

People who have a keen sense of the poetry in Europe's mediæval castles sometimes lament that our own country is too young and new to possess any romantic ruins. They are not well enough acquainted with their native land to know that it does have its own mediæval castles, picturesque beyond their dreams. Some of the most curious and fascinating of those traces of the men of old times are in southwestern Colorado, where a large tract has been legally reserved as the property of the United States. The "lay of the land" is in itself extraordinary; it is high ground, cut through here and there by nearly dry canyons through which rivers used to run long ago. Take your stand on the brink of one of the many canyons out in this lonely wilderness, and see where the lords of ancient America used to live, at a time when our own European ancestors were tilling the fields of Britain and Germany and Scandinavia, or fighting for the supremacy of some steel-armored princeling.

Position 60. Cliff dwellings of prehistoric men, Mesa Verda National Park, Colo.

Of all the astonishing sights to be found in the middle of a great western wild, this is one of the most amazing. Those old stone houses—one might almost call them castles—with their ruined towers and dusky chambers

and little windows, have stood deserted, silent, mysterious, nobody knows quite how many hundred years. When white men first had a sight of them, hidden away in this cleft of the earth and huddled under the protecting shelter of the hollow cliffs, the forsaken homes did not look just as you see them now, but were more or less choked with dirt and fallen stones and other rubbish blown in by vagrant winds. Authorities on archaeology and ethnology were sent here by the U. S. Government, and under their direction the ruins were searched and cleared of superfluous rubbish. There are no signs to indicate that the people who lived here a thousand years ago were butchered by invading enemies, though they must have feared enemies, for in many places watch-towers stand at the right points to give a sentinel command over the trails approaching the village. What were they like,—the men who built those towers and hollowed out those queer, cellar-like, circular rooms walled with blocks of stone? What unearthly rites were performed here in honor of the Powers they knew not how to understand? What thoughts filled the days of the women who carried water from the canyon up the steep bank to the houses, who made the food ready, and bore the children, and looked out of those small windows up to the sunshiny sky? And why did they go away? And when? And where? Even the learned doctors from Washington and from the great universities cannot answer. They only say that probably the vanished masters of these romantic homes were the kindred of our present Indians, only gifted in some rare, exceptional way with such insight and ingenuity and skill that they knew many of the same arts which Europe knew, in far back times when Europe and America were still ignorant of each other's existence. They

must have migrated from here when some pronounced change in the climate made this region unequal to supplying necessary food. And like migrating birds they left their nests behind them. How strange it all seems!

In some of the canyons near such old cliff dwellings, explorers have found traces of irrigation canals that were doubtless used until the water supply grew too scanty for even that purpose. You know that huge tracts of Colorado lands farther east are today being irrigated by our own engineers, turning what was once useless country into fruit farms. The general map marks with the number 61 a spot from which we are to look over one of Colorado's peach-growing valleys.

Position 61. Grand River Valley and its famous peach orchards, Palisade, Colo.

The rest of the United States have long been in the habit of thinking of Colorado chiefly as a land of snow-capped mountains with fabulous wealth of gold and silver hidden in their treasure-chests; now they are having to remodel their ideas to fit growing facts. Colorado does still lead the country in her production of the precious metals, but she is fast becoming an agricultural centre too, now that expert farmers have proven that apples, cherries, peaches, pears and plums can be made to grow to the very melting point of delicious ripeness even at places nearly eight thousand feet above sea level, under those heavenly Colorado skies. (Did you ever see more beautiful clouds than those fleecy masses sailing at this moment through the blue heights beyond that mountain?) Again, as in California and the northwest, it is irrigation that turns

a dream into such a fact as you find visible down there in front of you, where water has been diverted from the Grand river to feed hungry tree roots. Within the last twenty or thirty years over thirty millions of dollars have been spent on the construction of irrigation canals, to distribute water from Colorado mountain streams where it will do the most good, and millions more are being spent every year improving and extending the irrigation facilities already existing. The construction of the great Gunnison tunnel, to divert part of the Gunnison river and make it water a barren mesa near Montrose, means adding at one stroke about one hundred and fifty thousand acres of superb farm-lands to the wealth of the state. They are not afraid to undertake big things in a region of such immense possibilities. It does take courage, but they have the courage, all right. And it pays.

Then, besides all this, Colorado is actually farming dry land by means of the newly devised system, and accomplishing agricultural marvels in certain arid parts of the state where irrigation is not feasible.

But we must not linger too long over these miracles of modern scientific farming, fascinating though they are. As it is, we have seen as much of them as many a tourist sees, for the conventional sight-seeing tour is generally confined to a certain few lines among the mountains. The most widely known "sight" along the popular railway routes is of course the Royal Gorge where the Denver and Rio Grande road climbs and clings and burrows its way along the side of gigantic precipices, over the narrow bed of the Arkansas river. The location is marked 62 on our general map.

Position 61, Map I

Position 62. Royal Gorge where the railway hangs over Arkansas River Canyon, Colo.

Almost half a mile the canyon walls tower above your head at this point on the line, and right where that locomotive is puffing wearily over the bridge the rift in the rocks is actually only about *thirty feet wide.*

It seems like a spectacular "performance" for our benefit, and thousands of tourists every season regard it in that light. (You are now only about two hundred miles from Colorado Springs, and one-day excursion trips bring throngs to see the sight.) But after all the main purpose of the railway engineers in accomplishing such a feat was one of plain bread-and-butter utility. The great bulk of the traffic over these rails is long-distance freight moving slowly along the broad belt of our continent. Some cars that rumble over that engineering miracle go all the way from one ocean to the other.

Then there are railways (a bewildering network they make) running up and down, around and over and through the Colorado Rockies, partly to connect mining towns and farming valleys with the main lines, and partly to carry sight-seers to the finest outlook points. Seventy miles up west from Denver stands Mt. McClellan, over fourteen thousand feet high. Its summit is at present the highest point in the world which is reached by any regular railway. And when the special locomotive, breathing hard from its lungs of steel, has borne you zigzagging to the very top, this is what you see as you gaze southward.

Position 63. Gray's and Torrey's Peaks (over 14,000 feet altitude) S. from Mt. McClellan, Colo.

Gray's Peak is the one at the left, Torrey's at the

right beyond that titanic amphitheatre. And, if you were to turn so as to take in little by little the whole sweep of the horizon, you would find not only two but a hundred peaks in sight, the more distant ones in far-off Utah and Wyoming, where the purple and silver of the earth melt into the silver and sapphire of the sky.

Poets and painters try in vain to put into words the feeling which comes to us in a place like this, where we seem caught up out of all the common, temporary things of earth and given a vision of the serene Eternal. You cannot quite talk about it. But, once that feeling has come to you, the memory of it makes all sorts of "practical" perplexities and worries a little less perplexing, less worrying, even though perhaps to save your life you couldn't explain the reason why it does so. Reasons are not always necessary. "The Peace of God," as the reverent old phrase puts it, "passeth all understanding."

Much better known than this Gray's Peak excursion is the short trip (five miles) from Colorado Springs to what they call "the Garden of the Gods." It is only a small park—its area less than some city parks—but what city on earth could have such a gateway as this, supplied by nature?

Position 64. Gateway of the Garden of the Gods and majestic Pike's Peak, Colo.

We are still in an enchanted land

> "Where the snow mountains lift their amethyst
> And sapphire crowns of splendor far and nigh."

The Garden of the Gods is behind you. The carriage road by which tourists enter passes between those mon-

umental masses of red sandstone,—really red, with an amount of strong color which makes them look almost theatrically unreal. You can see where the highway approaches the "gate" from the farther side, and catch a glimpse of its curve at this nearer side.

But the glory of this outlook is yonder eastern watchman of the Rockies that stands guard at the dividing line between mountain-land and upland plain. Snow lingers all summer on parts of that peak, though it is not so high as Gray's and McClellan's. In 1806 Major Zebulon Pike, who was more a soldier and frontiersman than an alpinist, explored the lower surrounding slopes and gravely announced to the world that "no human being could have ascended to its pinnacle." But without any wanton disrespect to the major's usually good judgment you may, if you like, ride comfortably up from Manitou in a cog-wheeled car attached to a small locomotive; lunch at the very summit; gaze eastward over what look to be endless stretches of level floor dotted with towns and villages; gaze west and north over mountains and valleys and more mountains and more; buy souvenirs in a shop up among the clouds; and on your return bring down a daily paper printed at a mountain-side press, giving your own name in the list of the day's visitors. That is the Major's inaccessible sky-land, brought up to date!

Helen Hunt Jackson was one of the first writers who took pains to tell other people about the beauty of Colorado scenery. Her *Bits of Travel at Home* is very pleasant reading in connection with this part of the west.

The Garden of the Gods itself is a curious whim of nature. It does not invite to worship, but offers

what might almost be described as a vaudeville show, full of surprises, illusions and jokes. It is a bit of ground full of grotesquely shaped cliffs, ledges and boulders. Here is one which every traveler has pointed out to him by the carriage drivers.

Position 65. Balancing Rock, one of the wonderful landmarks in the Garden of the Gods, Colo.

The rock is reddish-brown sandstone, like most of the other natural monuments of the park. It looks as if it would be an easy matter to tilt the enormous mass so far as to send it crashing down the slope, but years of experimenting have proved that the huge boulder is much more secure than it looks.

Most of the landmarks hereabouts to which names have been given show some resemblance to plant forms, animals or human figures. There are rocks that look like toad-stools and even like toads. There are a seal and a bear. There are . . . but one's appetite for that sort of thing is soon satisfied, for after all it is only a very crude sort of pleasure that can be taken in tracing resemblances of that sort; there is no significance in them and as food for the imagination they are but sawdust.

The way in which this Balancing Rock and its neighbors received their curious shapes has been explained by geologists as due to the rushing of mighty river currents through here, and the blowing of mighty wind-storms, laden with sharp, powdery sand.

If, instead of this five-mile trip from Colorado Springs, you go forty miles back up among the mountains, you can see the richest gold-mining district that

the world yet knows,—Cripple Creek. The number 66 locates the place for you on our general map.

Position 66. Nightingale Mine at Bull Hill in the world's richest gold field, Colo.

Cripple Creek is the name of a basin-shaped district which includes a number of different mines. Up there in the slope of that dirty hillside is the entrance to one of the large number. Shafts have been sunk and tunnels bored through the breast of the earth all around here, until now laborers work from five hundred to a thousand feet below the day. Electricity is used for lighting and fresh air is pumped into the mines by machinery of the newest invention. Telephone messages are sent from one underground section to another or to the top of the shaft, all in as matter-of-fact a way as if the workers were merely in some big city factory or warehouse. Elevators of model construction connect the lower regions with this upper air.

There is probably no enterprise in the world which offers so many dramatic experiences as gold-mining. It was not until 1892 that any mortal realized there were millions of dollars under this ground. Indeed there is a local tradition that the first man who did find traces of gold here was so little impressed by their promise that he sold two hundred acres of land covering a good deal of the gold-bearing region for—a bottle of whisky! Since then a single carload of rock hauled up out of the depths has yielded over one hundred and sixty thousand dollars. In seventeen years (i.e. up to 1909) this Cripple Creek district has given to the world two hundred million dollars worth of the gleaming yellow stuff for which humanity seems perpetually hungry. It is a place where you get fairly dizzy with the thought of

Position 66. Map 1

dollars. Small wonder that there have been fearful tragedies here as well as magical fortune-making, for there is a certain evil charm in the atmosphere. The world still remembers a battle between the miners and the deputy-sheriffs, which took place near this very spot (at Bull Cliffs) in 1893.*

We must turn away now from the Rockies with all their scenic glories and their underground treasuries, for we have not yet seen the great Middle West with its own substantial beauty and promise. Look at the general map once more, and find where we are to take our next stand on a typical farm in the rich bottomland of eastern Kansas. The spot is marked 67.

Position 67. In the great corn-fields of Osage Valley, Kansas

You are in Franklin County, a few miles from Ottawa, facing north towards Lawrence and Atchison.

The rich alluvial soil that nature provides here is something almost unknown in the east. There are parts of these Kansas bottom lands where for fifty feet straight down you would find the same food-stuff packed, waiting for the roots of the corn to help themselves. The farmers plant early in April and harvesting is done in October unless the corn is cut earlier in the season for fodder. The yield here will be sixty or seventy bushels to the acre. Most of the corn in this part of the state is at present being fed to stock. It pays better to transform it into beef and pork before shipping to Kansas City and Chicago. And it pays

*For a fuller experience of seeing Colorado, take the tour *Colorado through the Stereoscope*, where you have a chance to look off from fifty successive positions.

well. Kansas was never so prosperous as she is to-day.

If you want to have in your mind a good, clear, well-defined picture of Kansas life, be sure to read William Allen White's *A Certain Rich Man.* It gives a most sympathetic account of the picturesque experiences of the eastern and southern men who came here and opened the country shortly before the Civil War, and it traces the gradual development, not merely of one villager with a genius and passion for business, but also of a whole community. It is a book full of entertainment and seriously worth-while at the same time.

The northern borders of the middle west are full of sights which show how keenly, energetically alive is America's mind, perpetually taking new conditions in hand, studying them down to the bottom, and devising new ways to meet and master them. For just one example let us go up to the river Ste. Marie (St. Mary) which connects Lake Superior with Lake Huron and divides the land of the American eagle from the loyal Canadian colony of His Imperial Majesty George the Fifth. The general map marks 68 the spot where we shall stand, overlooking a masterpiece of engineering construction.

Position 68. Whaleback freighters of ore and grain in canal at Sault Ste. Marie, Mich.

You are looking west in the direction of Lake Superior. That bridge in the distance carries tracks of a branch of the Canadian Pacific railway, to make connections with two of our own railways running westward to St. Paul and the Northern Pacific line.

The Canadian shore lies beyond the bridge. The

rapids ("Sault" is French for rapids) of St. Mary are off at your right at this side of the bridge. The canal that you see at your feet along the Michigan side of the river was constructed by the United States Government, to enable shipping to avoid the rapids. Vessels enter the canal at one end as if they were cars run on to a side track, and re-enter the river after the rapids have been passed. The rapids themselves are caused by a descent of seventeen feet in the river and that seventeen-foot difference in level is managed by the old device of locks—water-tight sectional divisions of the canal. This particular section that you see now from a balcony of the power-house is the Poe Lock, eight hundred feet long. The expense of maintaining the canal is met by the government and lockage is free. Those freighters now in the lock are headed up-river; the "whalebacks" are most likely going to Duluth at the head of Lake Superior, for wheat from the Minnesota and Dakota ranches; that type of freight-carrier was originally designed by a Duluth man. It is very economical of power and can stand a great amount of knocking around in bad weather without damage. The volume of traffic through here has multiplied many times since the young State of Michigan built the first canal half a century ago. Since then the wheat-growing lands of Minnesota and the Dakotas have been developed, the Lake Superior copper-mines have been made to give up astounding amounts of ore, and now within the last quarter-century the iron mines of northern Minnesota have been pouring out their product in a way that nobody dreamed of a generation ago.

You know how canal locks are worked? Those vessels entered the lowest lock of the canal at a point off behind us, passing through an opened gateway from the

river. The gate left behind them was shut; a gate ahead of them was opened and the difference in the water levels evened itself. Then they moved on into the second lock and its gate was shut behind them. The opening of a third gate ahead equalized two more levels and gave them a chance to move along one section farther. When they steam out from the last (uppermost) lock and re-enter the river, they will have climbed upstairs to the extent of seventeen feet,—the same ascent as if they had fought their way up the rapids.

All this region around the Great Lakes and the neighboring districts of the upper Mississippi valley were in old times the Indians' hunting grounds, and then later the scene of all sorts of romantic adventures, encounters and conflicts in the days when British and French both wanted the country for themselves. The Indian legends of Longfellow's *Hiawatha* were located mainly above here around Lake Superior. The lands which we now call Wisconsin, between Lake Superior and Lake Michigan, still include,—sandwiched in between counties full of towns and villages peopled with Americans of German and Scandinavian ancestry,—large tracts reserved by the Government for American Americans of various tribes. It is a lovely country full of low hills and woods, silent lakes and winding rivers, just the sort to suggest to mind the Indian canoes, wigwams and camp-fires of our childish dreams. One of a host of beautiful landscape vistas within Wisconsin's borders is on the lower course of the Wisconsin river before it reaches the Mississippi.

Position 68. Map 1

Position 69. Looking up the beautiful Dalles of the Wisconsin River beyond Romance Cliff, Wis.

A Californian would consider these trees mere scrubby bushes, but they have their picturesque value, all the same.

Here is still another witness to the tremendous forces that were at work long ago putting America into shape. It does not need a geological expert to see that this peaceful current must have had a mighty rushing torrent for its great-grandsire. Our own eyes recognize that those two cliffs just ahead must once have been parts of a single, continuous mass of rock, and that the stream in far-off centuries sawed its way through. Some day this rock shelf under your feet (a layer of the stratified rock which happened to be tougher and more resisting than the other layers below) will break off and fall, leaving this part of the shore with a profile like that of the headland beyond the stunted pine.

We saw in the canal at the "Soo" (Sault Ste. Marie, Position 68) whaleback freighters such as carry grain to market from the ranches of the northern Mississippi valley. Chicago is of course the greatest centre of buying wheat or speculating in wheat. Tall storage-houses ("grain elevators" as commercial usage calls them) take in shipload after shipload of grain and hold it in giant bins ready for reshipment as called for. Work at these elevators is something which every traveler is shown when a Chicagoan does the honors of the city.

Position 70. Loading a great whaleback ship at the famous grain elevators, Chicago

The machinery of a great plant like this makes it

possible to handle *thirty thousand bushels in an hour.* Inside those tall buildings are bins shaped like chimneys, twelve feet square and eighty feet deep. Cargoes of grain from various points in the middle and northwest have been brought here, and drawn up into the bins by means of a series of huge buckets fastened to an endless belt, working inside a protecting box or "leg" which reaches from the bin down into the railway car or the vessel's hold. What you see now is the process of giving the grain out again into this vessel which (apparently) will take it through Lake Michigan, Lake Huron and Lake Erie down to Buffalo, New York. The grain pouring by its own weight out of one of the bins is made to pass through a hopper which automatically records its quantity. It is now coming down through that immense spout or chute in a continuous stream as water might come down through a pipe, filling the cavernous receptacle space of the vessel.

A single year has seen more than three hundred and fifty million bushels of wheat handled in this way at Chicago's elevators.

As everybody knows, the value of wheat is one of the most variable of quantities, because it depends not simply on rains and droughts, hot weather and cold weather, but also on the schemes of speculators. Fortunes of the multi-millionaire grade have been made and millions more lost in playing that game of finance here in Chicago. Norris's novel of Chicago life called *The Pit* includes a masterly study of the mad excitement that belongs to grain speculation. It is one of the best things of its kind.

Indeed there is nothing slow about Chicago life, even for the rank-and-file who do not speculate in wheat nor

handle millions in any line. The city is the very embodiment of American "hustle." Take one look at a characteristic retail business street in the forenoon.

Position 71. State St. north from Adams,—a thoroughfare eighteen miles long, Chicago

You are right in the heart of the city, with the lake front and the Art Institute only three blocks away at the east (right) beyond Wabash Avenue and Michigan Avenue. Dearborn and Clark streets are parallel with this one at your left (west). This is just an ordinary forenoon throng in a region of retail shops. One of the biggest department stores in the world (Marshall Field's) is a little farther ahead on this side of the street. The big white building which you see ahead at the left is another department store called "The Fair." There are miles and miles of smaller shops of every sort. There are more miles and miles of warehouses and factories and business offices, into which armies of wage-earners pour every morning, out of which they pour every night, to distribute themselves by street cars and railway trains all over the northeastern corner of Illinois. (H. B. Fuller's clever novel *The Cliff Dwellers* includes realistic studies of life in Chicago business offices.) The city itself covers a whole county with a population of nearly two million. One hundred years ago there was only a frontier post here with a few log cabins near-by. In 1871, when the city was swept by the famous fire, people considered it a tremendous conflagration, but actually the place had only about seventy-seven thousand inhabitants; that figure seems small indeed, compared with the present figures at this greatest railway centre in the whole world. It is chiefly its service as an effective distributing station that has

earned for Chicago its amazing wage of accumulating wealth.

E. P. Roe's novel called *Barriers Burned Away,* which had extraordinary popularity in its time and still sells, was a romance of Chicago's great fire.

Whatever else the traveler sees or omits to see, his Chicago friends are almost certain to take him to the Stock Yards. A district amounting to nearly a square mile within the city limits is occupied by the yards and buildings and water-works and special railway tracks of this most celebrated live-stock market to be found anywhere in the world. Of course it is impossible to see more than a small part of it at one time, but even that will give some idea of the scale on which Chicago works to feed you.

Position 72. Great Union Stock Yards, largest live-stock market on earth, Chicago

The beasts in these pens have come from ranches in all parts of the west (some may indeed have come from the very ranch which we visited in Arizona,—Position 30—or have been fed from the corn of Kansas,—Position 67), consigned to Chicago dealers. Cattle-trains from all sorts of distant points are run down to these yards on special branch railway tracks and the animals they bring are driven into certain special pens. The bookkeeping required is an elaborate system, for every hoof must be duly accounted for. Those gallery-like structures above the ground level but connected with it by long inclines are passageways for the transfer of stock from one part of the yard to another.

There is not much space to spare in the rooms of this roofless hotel for the four-legged, but the animals

are properly fed and watered, and are reasonably well off. It takes a force of almost two thousand men to keep the establishment in good running order.

In a single year this one market has handled nearly three million cattle, over eight million hogs and between three and four million sheep, besides calves and horses that brought the total value over $270,000,000. It is the earth's greatest and chief supply-centre for meat-foods. Until about thirty years ago western cattle raisers used to ship live stock not only here but across the whole breadth of the country to a great many different distributing centres, to be slaughtered at the end of the journey. Now it is found a great deal more economical to consolidate the butchering business (incidentally of course it means vast fortunes for the chief promoters of the consolidated undertaking), and put the food supply into convenient form at a few great railroad centres.

Do you care to see how pork, for example, is made ready to be loaded into a cold storage car and shipped to Cleveland or Boston, Pittsburgh or Savannah?

Position 73. A half-mile of pork in Armour's great packing house, Chicago

The name of Armour is known all around the world in connection with the meat business. This is just one room in one department of the Armour establishment. In a single day nearly twenty thousand hogs have been transformed from living creatures into food material and a host of other kinds of material. The animals are driven in a continuous procession up a long platform, to a point where each in turn is caught by one hind leg and sent on a species of trolley down past a butcher

who dispatches it instantly. A hot bath makes easy the removal of all hair and bristles by power scrapers; then each carcass is cleaned, split open, inspected, and run into this room where it remains seventy-two hours waiting for all animal warmth to pass out of it. Samples are taken from each carcass and given microscopic examination to detect traces of any disease or parasite, and none but certified meat is allowed to go out as good. From this room the certified meat is sent to the cutting room where parts are cut off to be made into ham and bacon, other parts taken for canning and pickling and so on.

One of the most interesting things about a big packing house is the way in which every particle of a hog like these is utilized. The time-honored joke of this establishment is to explain that they use "every part of a hog except the squeal." The hides that are taken off make leather; bristles are material for brushes; bones and hoofs produce glue, gelatine and isinglass. Stomach linings are transformed into medicinal supplies; tallow and grease help make soap and glycerine. Whatever has no other use helps produce fertilizers. The whole system is a marvel of scientific knowledge, mechanical ingenuity and executive skill.

Probably this is as much as you care to see in the line of meat-packing, important though the industry is. The atmosphere of such a place, even with all sorts of sanitary care for cleanliness, can hardly be described as pleasant.

Upton Sinclair's sensational novel called *The Jungle,* which a few years ago sent consternation to packers of meat and eaters of meat, professed to give a true ac-

count of inside conditions in some of the big Chicago establishments. But in any case there is no doubt that conditions *now* are good.

Let us move on a few hundred miles eastward and rest our eyes on a scene as different as can well be imagined. The spot where you are to stand is marked 74 in southern Michigan.

Position 74. Prize-winning sheep (Shropshires) in a Jackson county pasture, Michigan

This sort of comfortable and pleasant farm landscape is what you would find in a thousand places in southern Michigan, Indiana and Ohio—nothing exciting about it, but just pleasant and wholesome and home-y. There is solid prosperity in such regions. People are not handling so much money in a year as some of the ranch-owners in the Pacific Coast states, but they live well and send their sons and daughters to school (very likely to the State University); they support their churches, and subscribe to the first-class magazines, chat with neighbors over the telephone wires, and seldom sigh for the hurry-skurry of Chicago.

These sheep have taken prizes at several agricultural shows and county fairs. Their wool is of medium grade as to fineness. When the first farmers settled here sixty to eighty years ago (they were mostly from New York state and New England) the farmers' wives and daughters utilized with their own hands the wool from flocks like this, spinning it on big wheels and weaving heavy, durable stuff for trousers, coats and gowns. Now they do not even think of knitting stockings, but order them by mail from the big shops in Chicago and Detroit.

You remember that when we were looking out over the ship canal at Sault Ste. Marie (Position 68) we recalled how the development of the iron mines in northern Minnesota has increased the usefulness of the canal. Immense quantities of iron ore are shipped through the Sault canal, down Lake Huron and along Lake Erie to Cleveland, then transferred from vessels to railway cars and sent on to the blast furnaces of Youngstown and Pittsburgh. We are going to stand now on the roof of a shed overlooking the railway tracks at one of the Cleveland docks, and see how the heavy, bulky stuff is handled.

Position 75. Unloading iron ore from Lake vessels,—old and new methods,—Cleveland, Ohio

We are looking northwest across a ship canal locally known as "the old river bed." That freight steamer yonder and the nearer one at your left have come down from the western end of Lake Superior—probably from Two Harbors,—laden with ore from the biggest and richest iron mines in the world. Now their holds are being emptied into freight cars. A few years ago most of the unloading and reloading was done according to the method which you see in operation right before you. That suspended bucket holding a ton or so has been lowered into the vessel's hold and filled, then lifted high enough to have a clear swing, drawn this way along that overhead beam, and then lowered again for dumping into the car.

Today it is better economy to instal the up-to-date unloading plant which looms so grotesquely in the air above the farther pier. One of those gigantic arms is made to reach its muscles of steel down into the hold with a bucket known as a "clam" at its end like a hand.

It picks up five or ten tons at once between the two sides of the "clam" and then shuts the sides together, holding the load secure. Then the arm rises, swings around and holds the clam down over a freight car. The sides of the clam open; the ore falls into the car. The giant arm goes back for another ten-ton handful.

A large part of all this ore will be made into steel for building railways and railway cars, engines, steamships, mill machinery, bridges, steel skeletons of city sky-scrapers—the million-and-one modern utilities of this Age of Steel in which we live.

The ore-freighters, as we know, got here by following along the chain of the Great Lakes. The borders of that water highway are thick with romantic stories in which French and British and Indian and American men and women have taken picturesque part. It was on Lake Erie, you remember, only fifty or sixty miles west of where you are now, that Perry, our naval hero of 1813, gained his victory over the British—the victory which he reported to General Harrison in the brief statement "We have met the enemy and they are ours." Picturesque too are the associations that belong to the noble river which carries the overflow of Lake Erie along into Lake Ontario. Even the Britons, French and Germans across the ocean who know little about most things in the United States, have heard of the Niagara river and of the stupendous leap it makes on its downward course toward the distant sea.

The general map shows a small, red-lined oblong around Niagara Falls; that means we have a special separate map of that neighborhood. If now you turn to that special map and find each one of our next three positions, you can know exactly where you are each time.

Position 57. Map 1

In the upper right corner of the Niagara map is a sketch showing the whole course of the river from Lake Erie to Lake Ontario. You see that its general direction is northward, but that it turns a corner right at the falls, changing from northwest above the falls to northeast below the falls. Now look at the main part of the map, showing the river in more detail, and find our seventy-sixth standpoint marked in red on the American (east) side of the river, where the bank makes its sharpest turn. We shall look southwest along the brink of the American falls, past Goat Island and across the Horseshoe falls to the Canadian shore.

Position 76. The world's grandest waterfall, Niagara from Prospect Point

It is a mass of translucent, jewel-like green that moves majestically forward and then sweeps down, down, down, without ever a halt in the motion or a pause in the roar. Of course people of different temperaments get different impressions of it, but generally no sense of terror is inspired by it;—the spectacle is so serenely majestic that the onlooker feels not any shuddering excitement but only wondering awe, and a sense of peace such as belongs to the starry heights of the sky on a clear and silent night. Indeed the mighty thunder of the falling floods has after a little while the effect of a solemn silence. You feel like a little, little child, allowed to look on while a great Master is doing His work. . . .

These are the American falls, making their plunge of one hundred and sixty-five feet to a hidden mass of broken rocks below. Those trees are on Goat Island. The curving line of precipice beyond is the Horseshoe. See how draughts of air down in the gorge have caught

Position 76. Map 3

up a million billion particles of water out of the breaking mass at the foot of the cliffs, and woven them into banners of iridescent mist and spray. Such gossamer veils woven of wind and water are always floating there in mid-air. When you see them at the proper angle on a sunny day, you find among their lacy folds the gleam of a rainbow.

And all the time these waters from the Great Lakes keep coming on and on and on, gradually wearing away the material of the cliffs over which they pour. Definitely recorded observations show that the Horseshoe falls are cutting their way back up-stream at the rate of five feet in a year.

Look down to the river level and you have a glimpse of the staunch little excursion steamer called *Maid of the Mist* on one of her regular trips, taking tourists past the foot of the Falls, across to a Canadian landing and back again.

For a short distance below the falls the onward flowing river moves in surprisingly quiet fashion. The *Maid of the Mist,* for example, has no turbulent waves to breast. But two or three miles farther down in its course the waters break into a fury of excitement. You can see that by taking the position marked 77 on the map, just below the railway bridge, and looking back southward up-stream.

Position 77. Wild waters of the Great Lakes hurrying seaward, Whirlpool, Rapids, Niagara

There come Niagara's waters racing towards you, like some herd of wild creatures in a crazy stampede, shouldering each other, locking horns with each other, rolling over and over, trampling each other underfoot and mad-

ly tearing on again. They have still nearly ten miles to run through a narrow channel (not all the way quite so narrow or so rocky as here) before they can reach Lake Ontario, and find space in which to agree. Right here the channel is only about three hundred feet wide and it is probably two or three hundred feet deep, with its bed thickly strewn by ragged fragments of rock, broken from the cliffs by the force of the falls farther up.

Now go back to the American Falls for a moment to see them in a very different aspect, from a different point of view, at a different time of year. The Niagara map locates our seventy-eighth position not on either bank but out in the river. We shall be looking from a thick ridge of midwinter ice. And (as the map also shows) we shall face the American falls, looking far enough eastward to take in the bluff at Prospect Point from which we got our first view of the massive cornice of down-pouring waters.

Position 78. Great mass of frozen spray and ice-bound American Falls, Niagara

The ice sheeted cliffs and the sparkling white masses of falling water beyond them look almost alike at the first glance, but your eye soon distinguishes them. Those tiny black things up on the projecting end of the cliff are sightseers, who stand just where you yourself stood at Position 76.

The great snowy hill directly before you is an accumulation of ice, snow and frozen spray from the falls. The icicle-sheeted cliff that shows beyond it at the extreme right is the end of Goat Island. Not every winter is there such a marvelous transformation scene at Ni-

agara's feet, but once in years the combination of certain degrees of continued cold and the blowing of certain winds does work such magic, and telegraphic announcement of what has happened brings thousands of tourists to the enchanted spot.*

One American of whom the whole civilized world has heard made his dazzling millions in the smoky air of the steel mills of Pittsburgh, where numbers 79 and 80 are marked on our general U. S. map. Would you like to see what such a place looks like? Do not expect to see anything beautiful; iron and steel manufactures mean soot and grime on all sides, and air filled with drifting furnace smoke.

Position 79. Steel Works, famous source of gigantic fortunes, at Homestead, Pa.

You are not actually in the city of Pittsburgh, but eight miles out, on the south side of the Monongahela river. For miles around this region is famous for its furnaces and foundries, huge establishments for iron manufactures and for the conversion of iron into steel. It was here at Homestead that a pitched battle once took place between a force of "locked-out" strikers and a force of Pinkerton detectives who had been employed by the Carnegie Company to guard the immensely valuable plant. Both the guards and the strikers were heavily armed; rifles, cannon and dynamite were used with deadly effect. A few years later this establishment

*For a fuller study of this most wonderful and beautiful waterfall in the whole world, take the tour *Niagara through the Stereoscope*, where you have a chance to look off from eighteen different positions, some of them on the Canadian side of the river. A special guidebook is provided, with patent maps identifying all the landmarks.

and various other manufacturing establishments in kindred lines were united to form the celebrated Steel Trust, a corporation that started with $1,100,000,000 worth of stock and $304,000,000 in bonds.

Carnegie himself, as most people know, was a ten year old boy from Scotland when he began to earn less than a dollar and a quarter a week in a Pittsburgh factory a few miles away. It was not until he was thirty years of age that he went into the iron and steel business.

Shall we give one moment to a striking stage in the process of turning dirty iron ore (such stuff as we saw handled at Cleveland, Position 75) into workable material of titanic strength? We find the chance in a great steel mill at Pittsburgh.

Position 80. Steel beam, red-hot drawn out 90 ft. long – Works at Pittsburgh, Pa.

In other departments of this huge establishment iron ore has been melted in great blast furnaces and from there run off—a fiery liquid—into bowl-shaped cars, and transferred to other rooms. Giant receptacles called "convertors" have received deep drinks of such liquid iron, together with certain carbon compounds which became combined with the iron when the convertors were subjected to terrific heat. The ingredients were fused into one homogeneous liquid mass of steel; then that new liquid was run-off and solidified into ingots, ready to be reheated in the course of later processes.

Right here before you a beam of metal, which is still like a glowing coal, is being slowly drawn out and given its desired shape by forcing it through rollers whose

terrific pressure can be adjusted to the most delicate variation of degree.

Steel from this very rolling mill goes out all over the world to do one sort of work or another. It may find its place in the skeleton of a Chicago sky-scraper; it may help armor a new battleship; it may help cover a Siberian plain with railway tracks; it may bridge a river gorge in the Andes or the Himalayas.

The most direct routes from Pittsburgh eastward naturally lead up through what was once the perilous wilderness of the Allegheny mountains. It is a beautiful country much of the way, and the manner in which railway trains have been made to climb the mountains is something worth seeing.

The general map marks 81, a place where we shall stand to overlook one of the most successful pieces of railway engineering in the eastern United States.

Position 81. Famous Horseshoe curve (eighty foot rise in less than half a mile), Allegheny Mts., Pa.

The grade here is one foot in every thirty-two and the engines of the Pennsylvania R. R. that haul heavy freights past have to be built for it. You are facing now nearly northwest; Altoona is off at your right. That little station over at the farther side of the curve is Kittanning Point. This approaching train, though it is now headed southeast, is actually westbound; it will make another upward turn around behind us and to the left, then ten miles west of here (it is only five in a straight line) it will pass the highest point in its journey, beginning a long down-grade into the valleys that feed the Ohio. At this side of the same height

the mountain streams are bound for rivers that contribute to the Atlantic Ocean.

If you want to see the difference between older and younger mountains (older and younger from the geologist's standpoint), just look at these low, rounding curves and then recall the sharp angles that we saw in Colorado from Mt. McClellan (Position 63). Geologists say that the Alleghenies are ages older than the Rockies, and that their longer experience of fire and flood, ice and storm, is what has worn their primeval angularity down into these more placid, gentle contours.

If you like stories of hair-raising peril, daring, keen wit and stubborn fortitude, you ought to read Theodore Roosevelt's *Winning of the West.* Many of his most thrilling chapters treat of life among these Allegheny heights and valleys, when hardy frontiersmen were first pushing their way inward from the original Atlantic seaboard colonies. It is tremendously interesting reading, and it helps as almost nothing else (in the book line) can help, to get a realizing sense of what the nation owes to those sturdy old pioneers. Their language, their manners, their standards of living, would shock many a refined and cultivated member of Middle West society today; but what they did at the peril of their lives was what made cultivation and refinement possible now. As for the Indians who had held the lands—well, read Roosevelt for yourself!

And everybody to whom our existence as a nation has vivid meaning must be interested to see Pennsylvania's historic battleground where one hundred and fifty thousand of the best and bravest of America's sons, from both sides of the country, threw their lives into the scale to help decide the fiercest of all the struggles in

our great Civil War. The general map marks the Gettysburg battleground with a red 82. The place is in Adams county down in the southeastern part of the state, less than ten miles from the Maryland line.

Position 82. "High Water Mark" of the Civil War and view south to Round Top, Gettysburg, Pa,

That hill in the distance straight ahead at the south was held by the Federal troops through the second day of the battle. The bloody "wheat field," which was fought over, lay at this side of the hill.

On the third day of the battle (July 3, 1863), Pickett's division of Longstreet's corps, four thousand Confederates, was formed in brigades at the edge of some woods a mile away from where you stand. The men were off at your right (west) beyond a level stretch of open fields. Webb's brigade of the Federal troops was entrenched along a farmer's stone wall a few rods ahead of where you are now, to the right of where you see that clump of trees. Another low stone wall ran along at the farther side of those trees and met the first wall at an angle. Pickett's men started to reach that angle of the walls, advancing across an unprotected open field under the deadliest fire which the Federal batteries could rain upon them. When they reached the angle only one of the Federal guns stationed there was still serviceable. Lieutenant Cushing, in charge of it, was mortally wounded, firing the last shot by the weight of his own body as he fell dead. The Confederate General Armistead with his own brigade reached the farther side of the wall. He tossed his cap on the point of his sword and held it aloft as he leaped over, leading his men straight into the Federal lines; but he too fell an instant later. Then followed

one of the most frightful hand-to-hand conflicts that have ever taken place in modern warfare. It lasted until this very ground before you was covered with the bodies of dying men, wearers of the blue and of the gray. There were on both sides the most splendid courage, dogged determination, and heroism of self-forgetfulness. At the end of that third day fifty thousand lives had been ended in this one struggle at Gettysburg. The Federal victory here checked the Confederate advance northward.

Any good history of the Civil War gives full accounts of those three days. Lincoln's *Gettysburg Address* delivered here in 1863 is, as everybody knows, one of our few perfect pieces of American literature.

If you care for a purely imaginative, but marvelously realistic and thrilling account of the experience of a raw country boy when plunged into battle, look up Stephen Crane's exciting story called *The Red Badge of Courage.* It is not actual history at all but it is considered by a good many old soldiers an extraordinarily faithful analysis of the way many a young fellow feels, confronted by the horrible realities of a battlefield.*

We are steadily nearing places associated with the very beginning of that national existence whose fate was at stake during the awful days at Gettysburg. Philadelphia is worth far more than one brief glance, but if we must condense our sight-seeing to that limit there is no question what to choose. It will certainly be a dignified old building of colonial times, where the Continen-

*You can get a very good idea of this particular battleground by taking the tour *Gettysburg through the Stereoscope*, which gives chances to look off from nineteen successive positions.

Position 82. Map I

tal Congress adopted the Declaration of our Independence from the rule of Great Britain.

Position 83. Independence Hall where the Declaration was signed in 1776, Philadelphia

You are seeing the south front of the building from Independence Square. The farther side of the same building fronts on Chestnut street. As you stand now, Carpenter's Hall, the Custom House and the (Delaware) river are all within half a mile at your right, i. e. at the east. Franklin Institute, the Post Office, the Mint and a host of other local landmarks are within three-quarters of a mile at your left.

That central part of the building, with the quaint, old-fashioned balustrade surmounting the ridgepole, was built almost two hundred years ago (1729-1735) by the Province of Pennsylvania, for a colonial statehouse. The wooden tower was not a part of the original structure as Washington and Jefferson and Franklin knew it, but was added in 1828. The ground-floor room at the east (right) of the tower is where the Declaration was adopted July 4th, 1776. The original document is now in the possession of the Department of State at Washington. The upper room at the right used in old times to be the scene of state balls and banquets.

The old Liberty Bell is now kept in a ground floor room directly under that central tower. In the open-air space at this side of the Hall the Declaration was read to the public for the first time.

Of course the Hall has been several times repaired and restored, but it keeps quite faithfully to most of its ancient traditions. Those twenty-four-paned windows are thoroughly colonial in their style.

John Fiske's *History of the American Revolution* is

one of the best, excelling the works of most of our other historians in fulness and accuracy of scholarship, and being at the same time delightful reading. The second volume of his *Dutch and Quaker Colonies in America* gives a particularly entertaining account of the beginnings of Philadelphia. For the romantic side of Revolutionary times here in Philadelphia you could hardly do better than to find Dr. S. Weir Mitchell's historical novel, *Hugh Wynne.* It is a classic in its way. Agnes Repplier's *Philadelphia, the Place and the People* gives a very interesting survey of the old town's contributions to American life.

Of course the states along our eastern seaboard are necessarily full of reminders of the days when the nation was slowly shaping itself out of a baker's dozen of separate, scattered colonies. One might make a long, long series of historic pilgrimages, but we can take time for only a very few.

For many different reasons at once we cannot afford to miss a chance to look out over the Hudson river. Though its banks are thick with tales of history and romance, it hardly needs that supplementary recommendation.

"If eyes were made for seeing,
Then beauty is its own excuse for being."

And the Hudson is every whit as lovely a stream as the German Rhine which pilgrims flock to gaze upon. The general map indicates our next standpoint by the number 84 on the west bank about forty-five miles above New York.

Position 84. Map 1

Position 84. Looking toward Newburgh from the battle monument, U. S. Military Academy, West Point, New York

This is at the upper end of the cadets' parade ground, on a high bluff called West Point, the place of Uncle Sam's big training school for army officers. You are looking north up the river. Newburgh, where Washington had his military headquarters in 1783, is only ten or twelve miles ahead on the left (west) side of the river. It was at Newburgh that the Continental army disbanded at the close of the Revolutionary War.

In those Revolutionary times and in the still earlier Colonial days this beautiful river was of tremendous importance to the lives and fortunes of new Americans. Henry Hudson in 1609 had sailed in the *Half Moon* away up far beyond those farthest shores which you now see. Using canoes, men afterwards went still farther than Hudson had explored, following the head-waters of this river almost up to Lake George, still farther northward, ahead of you. Canoes had here and there to be lifted out of streams and carried past falls or rapids or intervening heights of land. Then paddling down Lake George people followed northward down the opposite side of nature's watershed, traversed Lake Champlain, and reached the heart of lower Canada, on the St. Lawrence. With more or less hostile Indian tribes occupying the districts between here and the St. Lawrence, it is easy to see how this part of the country came to be the scene of so many exciting tragedies during the French and Indian wars of pre-Revolutionary days. And during the Revolutionary war itself this water-road was again a line of enormous importance, because the British used this and the connecting valleys as routes from their vantage ground over in Canada.

At one time during the Revolution our men strung a heavy iron chain across the Hudson right here at West Point, to serve like a gate for stopping an enemy's boats.

The establishment of the military training school here was a favorite project of Washington's though it did not become an established fact until after he died. Washington himself many a time looked off from this hill and saw those same mountains that you see now.

John Fiske's or any other good *History of the American Revolution* has added interest when one knows parts of the country where the question of our independence was fought out.

It was alongside this same river, you remember, that Washington Irving located some of those immortal stories of his about the times of the old Dutch colonists. *The Legend of Sleepy Hollow* had its setting a few miles down-river from here, on the east bank, i. e., behind you at the right. *Rip Van Winkle's* mountain adventure and his strange return home belong to the Catskill mountains, a few miles farther up-river at the west, that is, ahead and off at your left.

Cooper's Indian tale, *The Last of the Mohicans,* is a story of the country still farther up, toward Lake George.

If you turn around and walk a few rods across the level green of the parade ground, you can see going on some of the military training that Washington's foresight helped put in operation here.

Position 85. Skirmish line drill of cadets,—our future army officers at West Point, New York

These are a few of the hundreds of young men, physically and intellectually the pick of the whole country,

who are being trained to guard the nation and give her a chance to develop her best possibilities. Each cadet admitted here was recommended by the Representative from the Congressional district where he lived (the President has the right to make thirty additional recommendations at large), and each appointment was confirmed by the Secretary of War. Once here, the four years' round of work is severe as it can be made. Each future officer has to apply himself to an absolutely prescribed course; there are no such things as "snaps" or easy, elective studies. Besides the art and science of war, the study of ordnance and gunnery and drill regulations of all arms of the service, these men must make themselves fit to be leaders by a great many lines of study which some civilians do not realize are required—the higher mathematics, drawing, the French and Spanish languages, physics, chemistry, electricity, geology and mineralogy, history, constitutional, military and international law—all these have to be mastered, and if the semi-annual examinations do not show that first class work has been done very little leniency is shown. A weak student is dropped and somebody else with better brains is admitted to take his place.

The gymnasium drill here is wonderfully fine; these fellows learn to perform all sorts of hair-raising feats in the way of horseback riding, climbing and leaping, as if they were every-day commonplace.

Graduates go out from here commissioned by the President as second-lieutenants, but from that point upward they earn their own promotions, whatever those may be.

A host of famous names are associated with this ground. General Grant was once a cadet here; so was General Robert E. Lee. Sherman, Sheridan, Stonewall

Position 85. Map I

Jackson, Joseph Wheeler and many another of America's distinguished soldiers used to drill on this very ground which you see at your feet or look off up the river as you looked a few moments ago.

Captain Charles King, whose innumerable stories of American army life are so popular, was once a cadet here; indeed one of his books (*Cadet Days*) has its scene laid here at the Academy.

Six or seven hours' ride by rail would take us from this eastern part of New York state across Connecticut and Massachusetts to old Boston on the shore of Massachusetts Bay. If it were possible to stretch one hundred outlooks so as to cover all the really important and interesting things in the land we should give a generous share of time to New England and especially to Massachusetts, small though the state is in proportion to the splendid acres in the Middle West and on the Pacific. But as it is we will glance at only a few of those sights which the stranger specially wants to see because of their wide fame—Bunker Hill, for instance. The very fact of America's national existence to-day has part of its foundation in the soil of Bunker Hill.

Position 86. Bunker Hill monument, memorial of the famous Revolutionary battle in 1775, Boston

You are looking from a house-roof. That open grassy space is the top of a low hill near the northern limit of Boston. The noisy, crowded streets of the business districts and the beautiful airy streets of the best residence districts are off behind you, across the Charles river. You are just now facing nearly north. The water which you see straight ahead is an arm of the Bay. Salem, the old home of Hawthorne, is fourteen

miles away up the "north shore" which you see stretching away towards Nahant, Beverly and Cape Ann. Concord and Lexington, where the first real battle of the Revolution was fought, are fifteen or eighteen miles inland off at your left (west).

It was here on June 17th, 1775, that the famous battle was fought between the American colonists and the British troops sent over by King George III. Only two months before (April 18-19) Paul Revere had rowed across the Charles river from old Boston to a point not far from here, and received the famous lantern signal which sent him riding through the night to warn the people of Concord and Lexington that the British were about to march that way. (See Longfellow's poem, *Paul Revere's Ride.*)

The patriot leaders found out that the British General Gage was meaning to fortify this height for use in forcibly controlling the towns at its base, and they forestalled the British movement by erecting up here rough breastworks of their own. The labor was hastily done during the night of June 16. At daybreak the situation of things was discovered and a British force of four thousand men came to take possession. The patriots numbered only fifteen hundred. It was while they were waiting and the British were advancing that General Prescott gave the patriots their terse instructions not to waste any of the scanty ammunition:—"Don't fire, boys, till you see the whites of their eyes."

The corner stone of this memorial obelisk was laid in 1825 by Lafayette, our ally from France. Daniel Webster made one of his greatest speeches on that occasion.

The city behind us is today a great manufacturing

and commercial centre. Massachusetts is dotted thick with cities and towns full of mills and factories, where machinery buzzes and roars six long days in every week of the year. But cotton mills, woolen mills, shoe factories, machine shops and the like are not what the tourist usually cares to visit, even though they do have tremendous significance when you look at them as complementing the great agricultural and pastoral undertakings in other parts of the country. We will therefore keep more to the things of old-times, and take the busy, prosperous present for granted. Right in the heart of a tangle of narrow, crooked streets in the old part of Boston you find a public building that has been the scene of one exciting episode after another in the making of American history.

Position 87. The "Cradle of Liberty," Faneuil Hall, scene of historic assemblies, Boston

There is no one room in the length and breadth of the land which has seen so many important public gatherings. Legislative halls in different parts of the country are used by officially authorized, exclusive bodies of men. The speeches made here have been addressed not to legislators but to the plain people who make legislators.

You are on the second floor of the building, above a public market. The original building was given to the town in 1742 by Peter Faneuil, a rich merchant whose portrait you see on the wall ahead (the lower one at the left). It was rebuilt in 1762. James Otis, the Revolutionary patriot, in 1763 made the first notable speech here, dedicating the hall "to the cause of liberty." In 1766 the building was illuminated to celebrate the repeal of the Stamp Act. In 1768 British troops, sent

to discipline the town, were for a while quartered in this very hall. All through our struggle for independence, citizen forefathers of the nation gathered here, inspiring and catching inspiration from such men as John Adams and Samuel Adams, Hancock, Otis, Jefferson. Washington stood here many and many a time. Then in later days Daniel Webster and Charles Sumner and Wendell Phillips and a host of other brilliant sons of the nation have here given to the world some of their greatest thoughts, white-hot with zeal for some great Cause. According to the terms of its erection, this hall can never be sold and never be leased for money. It has always been and must always be free ground for the free speech of citizens who support a free government.

We saw at Arlington and Mount Vernon (Positions 13, 14) two fine old Southern homes dating back to eighteenth century days; Massachusetts too treasures some beautiful old mansions whose well preserved dignity takes us back into the atmosphere of a noble and splendid past. One such house is a favorite landmark in Cambridge, the Boston suburb where Harvard University is located. It is only a short distance from the University grounds.

Position 88. Stately old home of Longfellow, once Washington's headquarters, Cambridge, Mass.

It was a rich Tory gentleman of Boston who built this house in 1759. It is wood over a lining of brick, constructed in the solid, permanent fashion which belonged to those days of leisurely and painstaking workmanship. But Boston in early Revolutionary times was

not a pleasant place for strong Tory sympathizers! In 1775 Washington made his headquarters here, sleeping in the chamber on the second floor at the right of the entrance. The elm tree under which he stood when he took command of the patriot army is still one of the sights of Cambridge, only a few rods away down the street at your right.

In 1837, Longfellow who was professor of modern languages and literature at Harvard, came here to live and occupied the room which had been Washington's. He became greatly attached to the place, and, after his marriage, the house was bought for his permanent home. Here he wrote *Evangeline*, the *Psalm of Life*, a good deal of *Hiawatha* and in fact the greater number of all his poems which have since gained world-wide fame. The ground floor room at the right of the front door was his study, and the library is behind it. Here for years he used to work and to receive distinguished guests who came from all parts of the world. He died in 1882, rich in fame and in his fellow-men's affection. The home belongs now to his daughter, the "Alice" of his poem called *The Children's Hour.*

James Russell Lowell also was a Harvard professor and lived in Cambridge. His birthplace is another objective point for throngs of present-day pilgrims, who reverence his noble spirit and poetic genius and who delight in the sparkle of his shrewd and kindly wit.

Position 89. Elmwood, birthplace of James Russell Lowell at Cambridge, Mass.

The poet was born here in 1819 and spent his boyhood playing under these very trees. Here he lived all through his Harvard professorship and during the times

when he was the scholarly editor of the *Atlantic Monthly* and the *North American Review*. Here he wrote by far the larger part of his poems and essays, and a great number of his incomparably delightful letters. You can see for yourself how he may have gathered from these very surroundings the inspiration for some of his loveliest interpretations of nature's summer beauty—(don't you remember "And what is so rare as a day in June" in his *Vision of Sir Launfal?*)—Yes, and winter beauty too. If you know his verses called *The First Snow-fall* you remember how he describes just such trees as these outside his window:—

"Every pine and fir and hemlock
Wore ermine too dear for an earl,
And the poorest twig on the elm tree
Was ridged inch-deep with pearl."

(See his poems and essays, his biography by Scudder, and his published letters.)

Meanwhile the greatest city of the United States, the second largest city in the whole world, awaits our visit. The rest of our sight-seeing will be done in New York, and we have a special map of the city on which to identify each position and its outlook. The map shows in full only one of the four boroughs that make up the city, but that borough (Manhattan island at the mouth of the Hudson river) is the one where the points of most striking interest and importance are found. The borough of Brooklyn (of which the map shows only a fraction at the southeast, on Long Island) is chiefly devoted to homes, factories and retail business. The borough of the Bronx, (of which just a fraction is shown

at the northeast, on the mainland above Manhattan) is chiefly a region of homes and public parks. The borough of Richmond (on Staten Island) and Queens (on Long Island northeast of Brooklyn) include great tracts of country built up or about to be built up with homes. For you know the city as a whole has now *more than four million* people within its borders.*

Our ninetieth position is marked near the Brooklyn waterfront, on a roof not far from the eastern terminus of Brooklyn bridge. The red lines diverging from 90 show that we are to look a little north of west along the bridge and across the East river to Manhattan.

Position 90. Brooklyn Bridge W. N. W. from Brooklyn toward Manhattan, New York City

If you give a little study to the map in connection with what you see, you can get your bearings perfectly. The borough of Brooklyn reaches off behind you. The East river is flowing southward and enters the harbor beyond Governor's Island, less than a mile away at your left. The buildings massed together over there in Manhattan are well down-town; the Battery at the end of the island is only about three quarters of a mile below the *World* building, whose lofty dome is so conspicuous over there beyond the farther end of the bridge. And northward (right) the city reaches off fifteen or sixteen miles farther than you can just now see.

During Washington's first term as President he lived in a house over there on the Manhattan side occupying ground which is now covered by one of the big granite

*For a fuller experience of New York, take the special tour *New York through the Stereoscope*, providing for thirty-six positions in different parts of the city.

piers of the bridge. That neighborhood is now a grimy, noisy region of factories, warehouses and slum tenements, though it used to be a fashionable residence district.

This magnificent bridge was one of the world's wonders when it was completed in 1883, connecting Manhattan Island with Long Island. Indeed it is still a model for its own sort of construction, combining stone and steel. (Two newer bridges which now span the same river farther up, at your right, are entirely of steel.) As a piece of scientific engineering this beautiful structure that you see now will always command admiration. The distance covered between where you leave the ground level here in Brooklyn and where you reach the ground level again over there in Manhattan is nearly a mile and a quarter. Those granite towers from which the road-bed is hung stand two hundred and seventy-eight feet high, with foundations solidly embedded far down below the river level. That graceful curve of the middle span is one hundred and thirty-five feet above the water. The steel cables are immense bundles of smaller steel wires, whose length if laid out singly would be over fourteen thousand miles—almost enough for a thread to run through the earth from pole to pole and back again!

Next we will go over to the southernmost end of Manhattan and look off down the harbor.

Position 91. Castle Garden, the Aquarium and Liberty statue in harbor, New York City

You are looking southwest toward the borough of Richmond or Staten Island (that is part of Staten Island in the distance at the left) and the New Jersey

shore. The Hudson river enters the harbor down at your right. The East river, (the outlet of Long Island Sound) enters the harbor down at your left. The channel called the Narrows, through which vessels pass to reach the open ocean, is a little too far east (left) for you to see at this moment. Ellis Island, where immigrants land for examination before being admitted to the country, is inside this harbor, just out of sight at the west (right) and not far from where you see that immense statue of Liberty holding her torch of enlightenment aloft, from her pedestal on Bedloe's Island. At the Ellis Island station by far the greatest number of all our new Americans make their first landing on American soil. The incoming numbers vary—sometimes a thousand in a week; sometimes *over six thousand have been examined in a single day* and sent on to meet friends in the city or to take railway trains for other parts of the country. No land on earth, in all human history, ever had just these conditions to meet. No land on earth, in all human history, so needed intelligent and hearty loyalty in all her sons, native or adopted, to enable her to meet the conditions nobly and sensibly and successfully. (See books on our immigration problem, noted on page 170.)

The waters here are always alive with boats—often a great many more than happen to be in sight now—ferries from Staten Island and Long Island and New Jersey; steamers from points along the Long Island, Connecticut, Massachusetts and Maine coast; steamers from Albany, Philadelphia, Norfolk, Baltimore, Charleston, Savannah, New Orleans. Ocean liners come in here from almost every port of importance in the civilized world. Great railways whose transcontinental lines run west from the New Jersey side of the Hudson, either

Position 91. Map 4

tunnel under the Hudson farther up-stream or else send passenger and freight cars on big transport-ferries around this lower end of Manhattan Island to land above here at the east and continue their journey into New England. The subways (underground railways) of New York City cross to Brooklyn through a tunnel under the East River down at your left, and cross to New Jersey by tunnels under the Hudson river (a little farther up-stream) behind you at the right.

The grassy space below this balustrade is Battery Park; the name is a trace of seventeenth century times when cannon were planted there for the protection of the young settlement. In those days the ground where that low building stands was a ledge a few rods off-shore and it held a rude "castle" or fort connected with the mainland in real story-book fashion, by a drawbridge. The natural moat has since been filled in. (*New York Old and New* by R. R. Wilson or *In Old New York* by Thomas Janvier would give you most readable accounts of the city's picturesque experiences of long ago.) For a great many years this end of the island was called Castle Garden and used as a fashionable promenade; now, though it lays no claims to elegance, it is a much needed recreation place for thousands of dwellers in crowded streets not far away. The low rounded building is now a fine aquarium.

New York, in spite of her frightfully crowded population, is rich in summer-time pleasure resorts for those who have even a few nickels to spend on a treat. Most popular of all is a sea-beach at the southern edge of the borough of Brooklyn, just outside the harbor, by the ocean.

Position 92. "In the good old summer-time"—holiday crowds on the beach at Coney Island, N. Y.

Trolley cars, railways and excursion steamers all are hard-worked every hot Saturday and Sunday through the summer, bringing here the crowds that want to spend the day where fresh salt breezes blow. Innumerable restaurants and cafés of all grades provide things to eat and drink. Vaudeville shows and spectacles and performances of every ingenious kind offer a variety of entertainment to suit a good many varieties of taste. And here is always the blue sea inviting tired folks to frolic and refreshment. Throngs such as you see here now have many a time counted up to a hundred thousand persons in a single day, and only a small minority indulge in any really objectionable behavior. As a rule it is a decent and wholesome sort of "good time" that people find here.

Position 93. Brilliant Luna Park at night, Coney Island, New York's great pleasure resort

This is one of the myriad sights to be seen at Coney Island on any midsummer evening. We are within a special amusement section called Luna Park. Straight ahead is the Water Tower, transformed by glittering electric lights into something like a castle of fairyland. Those two long rows of sparkling arches mark the chutes where boats full of young people, shrieking with delight, slide down steep inclined planes into an artificial lake.

Every season offers new attractions here, some in the form of dazzling spectacles at which you merely look on, some in the form of exciting and amusing adventures in which you may personally take part if you enjoy having thrills run down your back and having

Positions 92, 93. Map 4

your hair stand on end. And thousands on thousands of people do find it great fun. It is the most bewilderingly up-to-date place of amusement in the world.

But now to go back into town. Of course everybody knows something about how the increasing pressure of business in lower New York has increased land values, and how, since a tremendous amount of cash now commands only a very small space of ground, land owners have met the situation by carrying their buildings higher and higher and higher. Some of the most striking of all the many "sky-scrapers" within the city limits are along lower Broadway, where land is worth from three hundred to six hundred dollars per square foot. Consult our New York map once more and find our ninety-fourth position, indicated at the junction of Broadway and Park Row.

Position 94. Singer Building (forty-seven stories) and City Investing Building (thirteen acres floor space) New York City

You are up on the roof of the Post Office, facing nearly south toward the harbor. Battery Park (which we saw from Position 91) is about three quarters of a mile away down at the farther end of that narrow canyon of "Broadway." The Manhattan end of Brooklyn bridge (which we saw from Position 90) is only three minutes' walk north-east of here, i. e. down behind you at the left.

The tall pile just ahead, at the left, is the St. Paul building, named for old St. Paul's church down at the opposite (west) side of Broadway. You can see a bit of its low gabled roof rising above the sidewalk; its spire rises at the west end of the church, farther toward your right.

The tower that stands *forty-seven stories* high you recognize at once as the Singer building. Seen from a distance (e. g. from a vessel coming up the harbor), one might mistake it for the soaring spire of a great cathedral; and, though it really does stand for commercial ambition rather than religious aspiration, it certainly adds tremendously to the dignity of the city's sky-line. As we see it now, with that superb mass of the City Investing Building at this side of it to balance its own extreme of vertical slenderness, we have perhaps the best example of positive beauty that America can offer in the form of giant temples of money-making. Sky-scrapers are most often painfully ugly things, appealing to us only by reason of their practical business utility and the able engineering that went into their construction; but don't you really think that splendid pile of steel and stone before us now is a development beyond America's former condition,—complacent satisfaction with useful ugliness? Notice the artistic ingenuity with which the architect handled one of the myriad problems involved in his vast and complicated problem—the placing of windows in such a way that they would perfectly serve their practical purpose of giving light to the offices in the building, and yet be a pleasure to the eye when seen from the outside. At this moment you can see, even with this obstructed view, more than five hundred windows, all nearly (perhaps exactly) the same size. Imagine what a hideous thing would have been created if the architect had planned his building to have one even surface on this north side and had set those five hundred windows all at equal distances from each other. It would have been like a dismal nightmare about multiplication tables! But he did no such stupid, commonplace thing as that. Neither did

he make the mistake of putting in some windows of fancy shapes and sizes for the sake of variety, and so giving his work a cheap "gingerbread" character unsuitable for so grand a building. He simply grouped the plain, sensible windows by ones, by twos, by threes, and separated them with tall plain, vertical wall spaces, in such a way as to make the alternating darks and lights form a pattern that gives real delight to the eye. And that is only one of a hundred ways in which the architect of this building has proved to the world that the useful may just as well be beautiful too, if only the worker has the right feeling about it, and technical skill to translate feeling into facts.

Now we will go down into a building which stands beyond the farther (west) end of Old St. Paul's church, and look back past the church toward the place where we have just been standing on the Post-Office roof.

Position 95. From Church St. northeast past St. Paul's to Park Row Building (twenty-nine stories) New York City

That cupola and flag pole mark the roof of the Post-office from which we were looking off a moment ago. The old brown church is the same one whose spire and gable we saw before. The Singer building and its beautiful neighbor are now too far to the right for us to see them. The tall structure that looks like a slice of something standing on end is the same St. Paul building which we saw from the Post Office; beyond it the Park Row building holds aloft its pair of curious, bottle-shaped towers. At first you feel like saying "cupolas"; then you count windows and see that they are five stories high—yes, "towers" must be the right word. The fact

is, in the presence of such giants as these Manhattan sky-scrapers you cannot at first quite believe what you see even while you are seeing it; five thousand people are at work in the offices of that one building each regular business day. Not less than twenty-five thousand go in and out every day.

The underground tracks of the Subway burrow through the ground down in front of the Park Row building and curve around so as to continue southward (right) under Broadway, i. e. between the St. Paul building and St. Paul's church, on their way to tunnels deep down under the East river, leading across to Brooklyn.

The plain, old fashioned church is a bit of the eighteenth century, and it makes a curiously poetic contrast with those queer, gigantic constructions looming up far above its own modest spire. It was built in 1764 and was a favorite place of worship in the days when Washington was serving his first term as President and while our national government was centred in New York. General Montgomery, the gallant commander who died at the storming of Quebec, is buried in that church and a memorial tablet on the (farther) end next to Broadway tells of his brilliant services to the country.

The six story stone building at the left, on Vesey Street, is the old Astor House, considered a marvel of elegance when it was opened in 1836. Thurlow Weed lived there for years while he was wielding tremendous political power. Andrew Jackson used to make that hotel his headquarters when he came to New York; so did Sam Houston, Henry Clay, Daniel Webster, Abraham Lincoln, Washington Irving, Hawthorne, Dickens, Macready, Rachel, Jenny Lind and a host of other famous men and women.

Consult the New York map again and see how Broadway, after running straight up-town a mile and a half from the Post Office and St. Paul's, begins to slant towards the Hudson river. At Twenty-third street it crosses Fifth avenue making a narrow X. Now we are going to stand at the edge of Madison Square, and look southward so as to see both Broadway and Fifth Avenue.

Position 96. The Flatiron Building the most remarkable business structure on earth, New York City

Madison Square is at your left, beyond those trees. The street which you see running straight down-town is Fifth Avenue; the one running obliquely is Broadway. Twenty-third street crosses them both here, extending west (right) to the Hudson and east (left) to the East River.

This grotesque freak of an office building occupies a whole "block" such as it is, i. e., the V-shaped space between Broadway and Fifth Avenue with a blunt end (just wide enough for eight windows) bounded by Twenty-second street. Count the stories for yourself and then perhaps you can believe (it is not easy) that it is almost three hundred feet from the sidewalk up to the roof. The audacity of its construction is something unparalleled in the history of architecture. It has the effect of an account book, with very long and narrow pages, its covers slightly spread apart and the volume standing on end. Really it is much more than three hundred feet high, for the steel skeleton (over which those stone slabs are fastened) is based far below the ground level in order to make it secure and safe. There are now a good many buildings taller than this, but the fantastically exaggerated slenderness of the

"Flatiron" gives it special distinction, and the convenience of its location makes it a favorite place for business offices of all sorts.

It is three quarters of a mile from here southward to Washington Square where Fifth Avenue begins (see the map). That part of the Avenue used twenty-five years ago to be a very elegant residence neighborhood, but now most of the old, rich families have moved farther north, up-town, and the Avenue below Twenty-third street is being used for business.

New York hotels, or ready-made homes, are more and more attracting people away from independent housekeeping into a luxurious form of co-operative housekeeping. One of the most elegant and expensive of all the Manhattan hostelries is the Hotel Astor, a mile farther up Broadway after it has crossed Fifth Avenue. We will glance into one of its dining-rooms where the members of a certain club are assembled under the glittering chandeliers.

Position 97. Dining in the palatial banquet hall of Hotel Astor, New York City

Thousands of New York men and women every night from October to May dine with this sort of palatial gayety. Fine table linen, gleaming silver, sparkling cut-glass, delicate china beautifully decorated, a first-rate orchestra giving a concert all through the leisurely meal, every sort of delicacy in season and out of season, greenhouse flowers and ferns, women with gowns and jewels almost as lovely as the flowers themselves—that is what dinner-time means in one of the first-class hotels like this. Of course it all has to be paid for. Even if one ordered no wines but kept to a comparatively quiet and

modest menu a guest at the Astor would spend hardly less than ten dollars a day, and a good many of the Astor guests run the amount up to three times that amount. There are private dining rooms here furnished as sumptuously as if they were for the use of an emperor, with wall-hangings of silk brocade, and table service of solid silver and gold. A dinner for four people in such a private room would probably cost twenty-five dollars apiece without wines, and might cost three or four times as much if the diners were a particularly thirsty sort. On New Year's eve all the fine hotel dining rooms in town are crowded with gay parties of friends (their tables reserved sometimes weeks ahead like opera seats), and great festivity marks midnight, the coming of the New Year. On an occasion like that the diners are not all of a socially correct kind (as they are just now), and the fun runs into all sorts of extravagant hilarity.

Of course the leaders of really formal society do not live in hotels. As everybody knows, there is a two-mile stretch of Fifth Avenue along which the houses of multi-millionaires with more or less famous names are closely packed, often with adjoining side-walls, like the dwellings of common folks. Let us pause again at the point on Fifth Avenue where the map marks a red 98. You see it is at the corner of 50th street, and the diverging lines promise a northward look, up-town.

Position 98. Fifth Avenue north from St. Patrick's Cathedral past the Vanderbilt homes, New York City

The magnificent Roman Catholic cathedral is just out of sight at your right; these people are just coming out of church on a Sunday noon.

Those twin houses of brownstone on the west (left) side of the street belong to descendants of old Cornelius Vanderbilt. Their exterior is not at all showy but they are said to be like royal palaces in the matter of interior sumptuousness and splendor. One hundred years ago Cornelius Vanderbilt was a poor country boy down on Staten Island. When he died in 1877 he left a hundred millions, made in the shipping business and in railways. The gray stone chateau just beyond those brown houses also belongs to a Vanderbilt with money almost beyond count. That beautiful tower at the corner of Fifty-third street marks the church of St. Thomas (Episcopal); the sharp spire a little farther up the street belongs to the Fifth Avenue Presbyterian Church. The tall building at the right is a new hotel of the extravagantly splendid sort, somewhat like the Hotel Astor (Position 97). Half a mile ahead, where you see tree foliage, Central Park begins; and Fifth avenue continues along its eastern border with houses all the way, but on only one side of the thoroughfare, so that all have unobstructed outlooks into the park. Every block includes homes of men whose names, if not known quite as well as the Vanderbilts and Goulds and Astors, stand for amounts of property that fairly make one's head swim. In a large number of cases the property owners are men who have made their own fortunes and not inherited them. Andrew Carnegie, for instance, who began at ten years of age to work for twenty cents a day, has a home on this (east) side of the Avenue opposite Central Park. Every nationality is represented in the roll of multi-millionaires,—English, Scotch, Irish, French, German, Dutch, Hebrew—Fifth Avenue is as cosmopolitan as the humbler districts of the city, and offers a strikingly suggestive illustration of the way in which

America's commercial opportunities know no barrier-fences of race or religion.

The cathedral before which we have been standing is one of the most beautiful pieces of pure Gothic architecture in the United States and is well worth anybody's admiring study. We will enter from the street and look eastward along the nave.

Position 99. Interior of the finest Gothic structure in the United States—St. Patrick's Cathedral, New York City

There is the high altar of exquisite Italian marble, at the farther end of our vista, almost three hundred feet away, with stained glass windows above it making a glory of rich color under the arches of the roof. The building is so vast that when mass is being said the tones of the officiating priest have a far-off effect, though no sound is actually lost. A magnificent organ is at the west end of the church just behind you, with a gallery for the choir. Sometimes a part of the choir is stationed temporarily in this long middle aisle, to help the congregation sing various parts of the mass.

Follow with your eye up the strong, noble lines of marble pillars beyond the pulpit at the right and the bishop's throne at the left. See how each one rises higher and higher and higher, to be crowned with a carven capital of marble as delicate as frost-work. Then see with how exquisite a curve each line begins to bend gracefully in, while still it is rising again higher and higher, and how at last those upper curves clasp hands in pairs away up in the highest part of the vaulted roof above the altar.

And see how the general idea of this lofty upward sweep of curving line is echoed again and again else-

where in the construction. You find exactly the same sort of beauty in those arched openings between the tall pillars. You find it again in the shapes of those beautiful windows. It makes one understand what was meant when somebody said that architecture is "frozen music"!

For our last outlook we will continue up-town to where you see on the map the number 100 at the west side of the city, near the Hudson river. We shall take our position on the roof of a tall apartment house beside the fashionable residence street known as Riverside Drive. The map shows that we shall have a long outlook over the Hudson and the New Jersey shore.

Position 100. Honored resting-place of General Grant—outlook north up the Hudson river, New York City

You are facing due north, with the greater part of the close-built city behind you and off at your right, though the extreme northern limits of New York are still about eight miles ahead at the north. The street down there below you has already come two miles along the upper edge of the riverbank, with elegant and dazzlingly expensive houses all along this one side, so that each house has its own fine view out over the river. The sloping bank between the street and the river shore is a public park, where all sorts and conditions of people come to enjoy the same sort of prospect that you have now, and to get rest and refreshment in breezy sunshine or peaceful moonlight. Do you see a long, low building down on the river bank beyond Grant's tomb? That is one of a number of "recreation piers" provided by the city along both the Hudson and the East River. All through warm weather it is used for free band concerts and for children's playgrounds, with white-aproned

nurses ready to soothe bumps and good-natured policemen ready to stop fun that begins to degenerate into rowdyism.

Thousands of automobiles go whizzing along this beautiful driveway every pleasant day. The fine roadbed extends for many miles farther uptown. On that wooded point which you see projecting into the river beyond the tomb there was a fort (Fort Washington) in the old Revolutionary days, when it was still an open question whether America was to make her own laws or have them made for her over in London. Another fort (Fort Lee) stood on that bluff which you see on the opposite New Jersey side of the Hudson. The famous battle of Harlem Heights was fought by the patriots and the British only a few rods from this ground where you are now, off at your right, where at present the land is part of the campus of Columbia University.

The dust of General Grant lies in a superb stone sarcophagus directly under that lofty dome; in various parts of the great interior space—it is as large as a magnificent church might be—are memorials of Grant's career and of the deeds of other men who shared with him the stern experiences of the Civil War. The building as you see it now is disappointing from the artistic point of view, but that is chiefly because it is unfinished. Groups of statuary are some day to surmount the corners of that lower, cubical part of the structure; they will fill those awkward, angular spaces and make the lower and upper parts look as if they belonged together, giving the whole an effect of oneness and serenity which it lacks at present. It was built by popular subscription, the people's memorial. There is no day in the year when the place stands unvisited by men and women, by boys and girls. Their own life conditions (be-

cause they are Americans) have been shaped in some way, in some degree, by the deeds of the silent, plodding American worker and leader who said LET US HAVE PEACE.

WHAT YOU MAY SEE

These one hundred places have a great deal to give to anybody who knows how to see. Remember you are not looking at pictures drawn more or less correctly by people whose knowledge was more or less accurate and complete. You are seeing for yourself the *actual facts just as they are.* These facts are something to be studied observantly; to be thought over; to be recalled to mind when you read the daily papers, the monthly magazines, or books old and new. Watch yourself a bit and notice how much more thoroughly alive any printed allusion to one of these places becomes for you, after you have in this manner seen the place with your own eyes.

One advantage in this method of seeing important places lies in the fact that you can see them over and over again. Images held in the memory get faded and blurred. You can go back to these one hundred standpoints as many times as you please, refreshing old memories and finding things you had not noticed before. *Do not fancy you have seen all there is to see from any of these outlooks, when you have given just one hurried minute to its study.* These one hundred places in our beautiful great North American Republic do not so easily exhaust the wealth they have to give! If a person gets little from them, that is not their fault, but the fault of the careless observer.

And these one hundred places are *worth seeing,—worth repeated study and reflection,—in a great many different connections.*

Whatever may be the special line of interest to which a person is most naturally inclined, a vast, varied land like the United States can give him abundant food for thought. Notice, as you look over these following pages, in how many different ways these one hundred places are

ready to give any intelligent observer stores of accurate personal knowledge, and honest delight in things that were created to give delight, and inspiration, too—that last comes when one begins to realize the ages it has taken to make this part of the world and the magnificent possibilities of life to-day.

At least a third of these one hundred places are well worth seeing for their natural beauty alone, even if one did not know much about the places themselves.

No.
16—Natural Bridge, Va.
21—Cotton field, Ga.
24—Palms at Ormond, Fla.
25—Cocoanut trees, Fla.
34—Grand Canyon, Ariz.
35— " " "
37—Redlands, Cal.
38—Santa Barbara Mission, Cal.
41—Yosemite Valley, Cal.
42— " " "
43— " " "
44— " " "
46—San Francisco bay, Cal.
47—Mt. Shasta, Cal.
48—Columbia river
50—Strawberry field, Oregon
51—Mt. Hood, Oregon
52—Mt. Tacoma, Wash.
55—"Old Faithful," Yellowstone Park
58—Canyon of the Yellowstone
60—Cliff dwellings, Colorado
63—Gray's and Torrey's Peaks, Colorado.
64—Pike's Peak, Colorado
67—A cornfield in Kansas
69—The Dalles of Wisconsin river
74—Sheep on a Michigan farm
76—Niagara Falls
77—The Whirlpool rapids, Niagara
78—Winter at Niagara
79—Horseshoe Curve in Penn. R. R.
80—Battleground at Gettysburg
84—Hudson river from West Point
100—Hudson river from New York City

You have here twenty-three opportunities to study at

leisure some of the best things our country has produced in the line of architectural and engineering construction.

No.
1—Washington Monument
5—United States Capitol
7—Congressional Library, exterior
8—Congressional Library, staircase
9—White House, exterior
10—White House, east room
13—Lee's old home, Arlington, Va.
14—Washington's old home, Mt. Vernon
15—U. S. battleships
29—Eads bridge, St. Louis
38—Old Spanish Mission, Cal.
59—Mormon Temple and Tabernacle, Utah
60—Cliff dwellings, Colorado
68—Canal, Sault Ste. Marie
70—Grain elevators, Chicago
83—Independence Hall, Philadelphia
86—Bunker Hill Monument, Boston
88—Home of Longfellow and Washington
90—Brooklyn Bridge
94—Singer and City Investing Bldgs.
95—St. Paul's Church and Park Row Bldg.
96—Flatiron Bldg.
99—St. Patrick's Cathedral, interior

Anybody who is interested in the way in which we Americans earn bread and butter has here forty special opportunities to see things bearing directly on our industrial and commercial problems.

No.
2.—U. S. Treasury (into which pour the proceeds of duties on imports)
5—U. S. Capitol
6—Joint session of the country's law-makers
9—The White House
10—The President of the United States
12—Room in Dept. of State where foreign policies are discussed
17—Beginnings of the turpentine business
18—On a rice plantation, S. C.
20—In a big cotton mill, S. C.
21—On a cotton plantation, Ga.
25—Cocoanut palms, Fla.

26—Shipping sugar, La.
29—Eads bridge (carrying important railway lines across the Mississippi)
30—Stock-raising in Arizona
36—Fruit-growing in California
37—Land reclaimed by irrigation, California
39—Logging in central California
46—San Francisco Bay, our great doorway to the Orient
49—Shipping timber in the northwest
50—Irrigation on a big ranch
54—Modern harvesting machinery at work, Washington
61—Results of irrigation in Colorado
62—Royal Gorge, where a railway creeps through a crevice among the Rocky Mountains
66—The richest gold field on earth, Colorado
67—A cornfield in Kansas
68—Freighters passing through canal on the Great Lakes route
70—Loading vessel from a grain elevator
72—The Stock Yards, Chicago
73—In a great meat-packing establishment
74—Sheep raising on a Michigan farm
75—Unloading iron ore, Cleveland, O.
79—Steel works, Homestead, Pa.
80—Steel beam 90 ft. long at red heat
81—How railways climb the Allegheny Mountains
90—Brooklyn Bridge
91—New York harbor (where thousands of immigrants come in to live and work)
94—Sky-scraper 47 stories high and one with 13 acres floor space
95—Office building 29 stories high, housing 5,000 workers
96—The Flatiron Bldg.—utilizing an almost useless ground-space
98—Homes of multi-millionaires

Anybody who is interested to know how our country was made ready for humanity to take hold of it, can see the Creator's records plainly written in at least twenty-two different places.

No.
16—Natural Bridge, Va., carved out by ancient stream
23—Beach at Daytona, Fla., where the sand is chiefly the shells of sea creatures, pulverized by continued action of the ocean waves.
84—At the Grand Canyon, Arizona—gorge carved by a prehistoric river. The horizontal layers or strata which show in some of the cliffs indicate that away back even earlier than the time of the ancient river this region was part of the bed of a sea; the present rock strata were successive deposits of different sorts of mud and gravel.

35—Beside the Colorado river; this shows carving done by a prehistoric river.

41—El Capitan, a cliff in wall of Yosemite valley; shows some of the original stuff of which the earth was made, just as it first cooled.

43—"Nearly a mile straight down," shows a boulder which was brought twelve miles by an ancient glacier and left on the brink of the gorge.

45—Sea beach and Seal rocks, San Francisco—shows how ocean has cut parts of cliff off from the mainland and how surf has broken similar rock fragments up into fine sand.

47—Mt. Shasta, Cal.—at head of San Joaquin valley, shows how mountain snows furnish water for the streams running down into lower districts.

48—"Pillars of Hercules" shows how river in old times cut off part of cliff just as ocean did at Position 45.

51—Mt. Hood, Oregon, renders same sort of service as Mt. Shasta. The mountain streams carry pulverized rock fragments down into the valleys to help make soil. Such soil, made partly by contributions from Mt. Hood, may be seen at Position No. 50—a strawberry field in Hood river valley.

52—Glacier on Mt. Tacoma is sliding slowly down mountain-side and rasping off rock fragments as it slides.

53—Close view of a glacier.

55—Geyser in eruption, showing that the interior of our planet is not yet cooled off.

58—Gorge of Yellowstone river, showing erosive work of ancient river, probably made more effective by the waters being hot and charged with corroding chemicals.

60—Canyon cut out by an old time river, now all dry.

63—Gray's and Torrey's Peaks, Colo.—mountains that are still comparatively "young" from the geological standpoint, retaining sharp edges and corners. Compare with the far more ancient Allegheny mountains, seen from Position 81, whose angles have been reduced and rounded-down by the weathering of much longer periods of time.

65—Balancing rock in Garden of the Gods, worn by currents of water and winds laden with sand.

67—Kansas corn, growing in soil which was once the sediment in bottom of an inland sea. Soil now from ten to fifty feet deep.

69—Dalles of Wisconsin river show erosive work of an older river on stratified rocks, i. e. rocks formed by the heating and hardening of what were once layers of sediment in the bed of an inland sea. In foreground you see a crusty growth of gray lichens feeding on the ledges. Lichens of more or less similar sort were among the very first forms of vegetable life to appear after the earth's exterior cooled and bulged and cracked; they digested bits of rock and made it over into soil capable of supporting still higher forms of plant life.

76—Niagara Falls show how the torrent has eaten out a big curve from the edge of the farther cliffs.
81—In the Allegheny mountains, much more ancient than the sharp-peaked Rockies (compare with outlook from Position 63), as is shown by their subdued and softened contours.
100—Hudson river at New York, made much larger than it would naturally be by the sinking of the ground in this region during some earlier age. Volcanic action thus made it what geologists call a "drowned river."

There are seventeen among these hundred places where one gets interesting glimpses of different kinds of Americans.

No.
6—Legislators, Cabinet Members, military men and Justices of the highest rank
11—The President of the United States
17—Negro peasants
18—Negro plantation hands
20—Factory operatives
21—Negro plantation hands
23—Winter tourists of the moneyed class
30—Cowboys on a ranch
31—Indians of a nomadic tribe
32—Indians of a "pueblo" or permanent village tribe
33—Indians of a "pueblo" or permanent village tribe
38—Celibate brother at a Spanish mission
39—Western lumbermen
66—Gold-mine workers
85—Cadets in training for army officers
92—Average New York people on a holiday
93—Prosperous middle-class people at dinner

There are thirteen places where one has a chance to see widely different types of American homes.

No.
9—The President's home (exterior)
10—The President's home (interior)
13—Old colonial mansion at Arlington, Va.
14—Old colonial mansion at Mt. Vernon, Va.
15—Typical Southern houses of semi-Spanish character
31—Indian wigwam
33—Indian pueblo houses
38—Home of a religious community
60—Homes of ancient Indian peoples
88—Old colonial mansion, New England

89—Old colonial mansion, New England
97—A typical city hotel dining room of the very expensive grade
98—Homes of multi-millionaires

Five of these one hundred places remind us of the wide variety of religious life in our land where freedom of conscience is secured by law.

No.
33—Religious dance to propitiate the rain-gods (Pagan)
38—Institutional church and home of a religious order (Roman Catholic)
59—Temple and Tabernacle at Salt Lake City (Mormon)
95—St. Paul's church, where special services were held as a part of the inauguration of our first President (Protestant)
99—St. Patrick's cathedral, one of the most beautiful in America (Roman Catholic)

Thirty of these one hundred places are indirectly associated with important events or movements or epochs in our national history, and with the careers of our great men.

No.
1—Memorial to George Washington
5—A great number of our national leaders all through the last hundred years.
6—All the important debates of the House since 1859 have taken place in this room.
9—All the Presidents after Washington lived here. The Cabinet meetings have also been held here.
10—Distinguished guests, both American and foreign, have been entertained here.
12—Conferences held in this room with official representatives of foreign nations have influenced the shaping of our laws and often helped straighten out what might have been serious international disagreements.
13—Home of the Confederate leader whose nobility is now honored by men on both sides of our great national conflict. The grounds surrounding the houses are used as a national cemetery for U. S. soldiers.
14—Home of Washington, directly associated with his life as our President, and after his retirement from office.
15—Among these very vessels are some that made splendid records in the Spanish war.
19—Where the Civil War began in 1861.
22—In a city that used to be part of the kingdom of Spain, and

that was pillaged in Queen Elizabeth's time by Sir Francis Drake's men, on one of their voyages from "the Spanish Main."

26—Beside the river that De Soto explored in the 16th century, opening up for Spain new lands that we afterwards bought from France.

27—Where the "battle above the clouds" was fought during the Civil War.

31—Indian descendants of a tribe that used, long ago, to live up near the Great Lakes and the country of Hiawatha.

32—One of the Indian pueblos or cliff towns, whose reputed riches led the first Spanish explorers up from Mexico.

38—The romantic landmark of what was once an important Spanish movement up the Pacific coast.

48—Columbia river (formerly called the Oregon river), explored by Lewis and Clark in 1804-5.

60—Fortified homes of Indians who lived in Colorado before white men knew America at all

79—Steel works, where some of the many millions of our famous "star spangled Scotchman" (Carnegie) were made.

82—Decisive ground on the battlefield of Gettysburg.

83—Where the Declaration of Independence was adopted, signed, announced and first read to the public. This means association with a great number of the most important men of that period in our history.

84—Where Hudson sailed on his voyage of exploration in 1609. Where military movements took place in the French and Indian Wars and the Revolutionary War. The cannon along bank were captured during the Mexican war. Grant, Lee, Sheridan, Sherman, Wheeler, "Stonewall" Jackson and other famous men of later times were once cadets here.

86—Memorial of one of the famous battles of our Revolutionary War.

87—Where popular meetings and political discussions helped make American history from Washington's time down through our Civil War.

88—Where Washington had his headquarters when he took command of the patriot army. Longfellow afterwards lived here and received as guests hundreds of the most distinguished men and women of his day.

89—Home of James Russell Lowell, whose genius helped to shape American literature and to win foreign respect for American books.

91—The harbor where Hudson sailed in and out, and the ground where the Dutch East India Company (on the strength of his report) established a fur-trading port—an enterprise which has developed until now the settlement has grown into the second largest city on earth. A good many of America's adopted sons, who are now prosperous, loyal and solidly helpful citizens, once landed here as new immigrants.

95—St. Paul's Church was standing in Washington's time, and

many of the foremost men of that day said their prayers within its walls. The Astor House was for two generations a favorite temporary home for our most distinguished statesmen and foreign visitors.

98—Homes built and supported by the Vanderbilt fortune—gained by developing America's shipping and railway facilities.

100—Memorial tomb of General Grant.

Fifty-nine (more than half) of these one hundred places are wonders of their kind, deserving superlatives when compared with the rest of the world.

No.

1—Tallest stone structure in the world (Washington Monument)

5—Where laws are made by chosen citizens of the earth's greatest republic (U. S. Capitol)

7-8—Most magnificent public library in the world (Congressional Library)

14—Home of the man whom Frederick the Great called "the greatest general in the world" (George Washington)

15—Where cannon shot began a war to decide the question of indivisible unity in the world's greatest field of popular self-government

21—Harvesting part of a crop worth annually over $320,000,000

23—One of the finest race-tracks in the world, a natural sea beach thirty miles long (Florida)

25—Trees with luscious, juicy fruit, growing in clear white sand (Cocoanuts in Florida)

27—Where an important battle was fought "above the clouds" (Lookout Mountain)

29—One of the largest rivers on earth (Mississippi, 2,000 miles long, or 3,900 if the Missouri is regarded as its upper course)

30—One of the largest stock farms in the world (Arizona)

32—One of the most picturesque native towns of an aboriginal people (pueblo Indians)

33—One of the most curious religious ceremonies to be seen in the western hemisphere

34-35—The most marvelously picturesque river gorge known to mankind.

36-37—Some of the most strikingly successful achievements of modern scientific farming (irrigated land in California)

40—One of the biggest trees now alive—perhaps as old as the Christian religion

41—A solid mountain-side of the earth's original stuff just as it first cooled (granite wall of El Capitan, Yosemite)

42-43-44—Glimpses of one of the most celebrated valleys in the world (Yosemite)

45—Outlook over the earth's greatest ocean (Pacific at San Francisco)

49—One of the biggest and most valuable rafts ever put together by human hands (logs on the Columbia river)

50—Where pleasure parties climb over an ice river at an angle of nearly 45 degrees (glacier on Mt. Tacoma)
54—One of the biggest grain fields in the world, with harvesting done by marvelous modern machinery (Washington)
55—The most celebrated volcanic spring in the world (Yellowstone park)
56—Specimens of one of the finest native animals of the western world, now almost extinct (buffalo, or American bison)
58—Extraordinary river gorge cut out by hot floods charged with corrosive chemicals (Yellowstone river)
59—Religious centre of one of the queerest religious sects known in modern times (Mormons at Salt Lake City)
60—Mysterious, abandoned homes of an unknown people who migrated before America's written history began (Mesa Verde, Colo.)
62—Where a railway creeps through a mountain crevice 30 feet wide and half a mile deep (Royal Gorge, Colo.)
63—Looking from the highest point reached by any regular railway, 14,007 ft., or nearly three miles above sea level (Mt. McClellan, Colo.)
66—Mines in the world's richest gold field (Cripple Creek district, Colo.)
67—Farming region where rich black soil is sometimes 50 feet deep (eastern Kansas)
68—Where steamships go up and down stairs 17 feet on their way from one lake port to another (canal at Sault Ste. Marie)
70—One of the most curiously designed freight boats ever invented (a "whaleback" at Chicago)
71—One of the longest business streets in the world (Chicago)
72—In the largest live-stock market in the world (Chicago)
73—In one of the largest meat packing establishments in the world (Armour's, Chicago)
77—The most famous waterfall in the world (Niagara)
79—Part of the "plant" of one of the richest business corporations in the world (U. S. Steel Co., Homestead, Pa.)
82—Scene of one of the most frightful battles in modern warfare (Gettysburg)
83—Place where the earth's greatest experiment in popular government officially began (Independence Hall, Phila.)
84—One of the loveliest rivers known to "globe trotters" (the Hudson)
86—Place where a lost battle has ever since been celebrated by the losers, because it helped gain a great cause (Bunker Hill)
87—A public hall, which has seen more important popular meetings than any other room in the world
88—Home of the most widely known and loved of all American writers—his works being translated into nearly every civilized language
91—Harbor, which has received more home-seeking immigrants than any other port on the globe (New York)

92-93—At the most popular amusement resort on earth, where 100,000 people often go for a half-holiday (Coney Island)

94—Two of the most marvelous "sky-scraper" structures of steel and stone ever put together (Singer and City Investing Bldgs., New York)

95—One of the most curious contrasts of old and new to be found on earth (St. Paul's church and graveyard below a 29-story office building, New York)

96—The most amazing "freak" building in the world (Flatiron, New York)

97—In one of the most gorgeous and expensive hotels in the world (Hotel Astor, New York)

98—Among the homes of some of the richest men now alive (Fifth Avenue, New York)

99—One of the best pieces of pure Gothic architecture in America (St. Patrick's cathedral, New York)

100—Memorial tomb of one of the greatest military commanders of modern times (Ulysses S. Grant)

BOOKS WORTH READING

The amount of interesting and profitable reading that might be done in connection with this tour is limited only by a reader's time, his access to good libraries, and the length of his purse. Only a very few out of a great many desirable works are included in the following list. It is not claimed that these are the only good things in their several lines, but they certainly are all good.

U. S. History Before Men Lived Here

N. S. Shaler's *Story of our Continent* is a reliable and readable account of the origin of its land and water forms, from the standpoint of a distinguished geologist.

U. S. History, Political and Social

John Fiske's histories (Houghton Mifflin Co.) are recognized as standard authority in point of scholarship, and they are at the same time delightful reading. See

Discovery of America
Old Virginia and Her Neighbors
The Dutch and Quaker Colonies in America
The Beginnings of New England
The American Revolution
The Critical Period of American History (1784-1789)

Woodrow Wilson's *History of the American People* (Harper, 5 vols.) covers the period from the discovery of America down to 1900.

Henry Cabot Lodge's *Story of the Revolution* (Scribner; 2 vols.) is good for that section of time.

John Bach McMaster's *History of the People of the United States from the Revolution to the Civil War* (Appleton, 7 vols.) begins with the close of the Revolutionary War and ends with conditions before the outbreak of the Civil War.

Theodore Roosevelt's *The Winning of the West* (Putnam, 5 vols.) is probably the best history we have of the movement of our colonial frontiersmen inland over the Alleghenies and down into what is now the rich and powerful Middle West.

Histories of the Civil War are almost endless in number and give a chance to hear the story from both sides. In this connection it is of immense importance to consult standard biographies of some of the greatest men of that period, e. g. John Hay's *Life of Lincoln,* Thomas Nelson Page's *Life of Robert E. Lee,* etc., etc.

E. Benjamin Andrews' *The United States in Our Own Time* (Scribner) covers the period from the close of the Civil War through McKinley's administration and the Spanish War.

Theodore Roosevelt's *The Rough Riders* (Scribner) gives a vivid idea of the most notable land campaign of the Spanish War.

John R. Spears' *Our Navy in the War with Spain* (Scribner) is one of the best things on that side of our operations.

U. S. History, Industrial

Carroll D. Wright's *Industrial Evolution of the United States* is a popular condensation of the story. Of course the complete following-out of any one line of industry would mean reading an immense amount of specialized literature.

How U. S. Geography Helped Shape its History

Those who like to question why, as well as what, will find very interesting and accurate treatment of this subject in:—Ellen Churchill Semple's *American History and its Geographic Conditions* (Houghton Mifflin Co.)

Albert Perry Brigham's *Geographic Influences in American History* (Ginn).

The People of the United States

Authors of the histories mentioned in the second section of this list naturally give attention to the question as to what kinds of people had a hand in making the

beginnings of our national life. Readers who want reliable information and tremendously suggestive ideas about the newer elements in our population would do well to see such books as the following:—

Jacob Riis' *The Making of an American*,—a most entertaining piece of autobiography and full of inspiration to other Americans, either new or old.

E. A. Steiner's *On the Trail of the Immigrant* (Revell)—a study of the old home conditions of our newer citizens, and the varied inheritance they bring with them.

John R. Commons' *Races and Immigrants in America* (MacMillan)—a careful study of the different elements that make up our population.

Booker T. Washington's *Up from Slavery* is autobiographical. His *Story of the Negro* (Doubleday, Page & Co., 2 vols.) is a scholarly study of the race as a whole, its primitive conditions and the way it has been modified and developed through forced emigration, slavery and enfranchisement.

American People As Seen by Foreigners

James Bryce's work, *The American Commonwealth*, though not a recent book (1888), is regarded as one of the most valuable studies in this line. It deals with our characteristic institutions and the principles underlying them, from the standpoint of a broad-minded British historian and statesman, of Irish birth.

Hugo Münsterberg's *American Traits* is a serious and candid study of us from the standpoint of a highly educated German. His other book called *The Americans* is a translation of a work which he wrote for publication in Germany, intending it only for readers in the Kaiser's empire.

Abbé Klein's *In the Land of the Strenuous Life* gives a chance to see our own country through the eyes of a French priest of the Catholic Church.

Max O'Rell's *A Frenchman in America* (Cassell. The author's real name is Paul Blouet), is a very clever and amusing book, not serious in its tone like Professor

Münsterberg's. The same comment holds true of Blouet's *Jonathan and His Continent* (Cassell).

George Warrington Steevens' *The Land of the Dollar* (Blackwood) is a shrewd and kindly study of our country and our ways, written by a British newspaper correspondent.

The United States Government publishes an immense amount of information about our natural resources, our population, our industries, and our commerce, both home and foreign. Some of the publications can be obtained without any expense; some are furnished for comparatively small prices. For title lists of Government publications in any special line, address the Government Printing Office, Washington, D. C.

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"As chairman of the Sunday-School Commission of the Diocese of Chicago, I have also recommended your 'Travel Lessons' for general use in the diocese at large." CHARLES SCADDING (Rector of Emmanuel Church, La Grange, Ind.).

Perfect Satisfaction

"I consider the Lessons with the stereoscopic views and special maps the most valuable device for the religious education of the young I have ever seen. Out of my experience have come two conclusions. First, that the provision which most churches make for the religious training of the children is miserably incommensurate to the need. My own Church has been paying just seven times as much for the support of its choir as for the support of its Sunday-School. I think the statement of the difference is a sufficient comment.

"My second conclusion is that your Travel Lessons, with the stereoscope, constitute the longest step taken in the direction of more intelligent educational equipment for the Sunday-School, for my own experience has demonstrated that these Lessons rightly taught increase the attendance, intensify the interest and strengthen the spiritual activity of the young." ANDREW GILLIES, D.D. (Pastor St. Andrew's Church, 102 West Seventy-sixth Street, New York).

Making Permanent Religious Impressions

"My experiment in teaching the Last Week of Christ's Life to a group of ten boys, with the aid of stereoscopes and stereographs, has resulted more satisfactorily than even my rather sanguine expectations anticipated. A sense of reality was produced, which penetrated beyond the mere historical events to the hidden principles they embody. In maintaining interest and in making indirect but permanent religious impressions, I think the method is more satisfactory than anything I have yet been able to discover. Dr. Forbush has placed the Sunday-School world under great obligations in working out so carefully his material for both Old and New Testament studies." ALFRED H. BARR (Pastor Jefferson Avenue Presbyterian Church, Detroit).

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UNITED STATES TOUR, MAP NO. 1, POSITIONS 14-75, 79-89

Patented, U. S. A., August 21, 1901 *Patented France, March, 26, 1900* S.G.D.G. *Patented Great Britain, March, 22, 1900.* *Switzerland,* ✚ *Patent Nr. 21, 211.*

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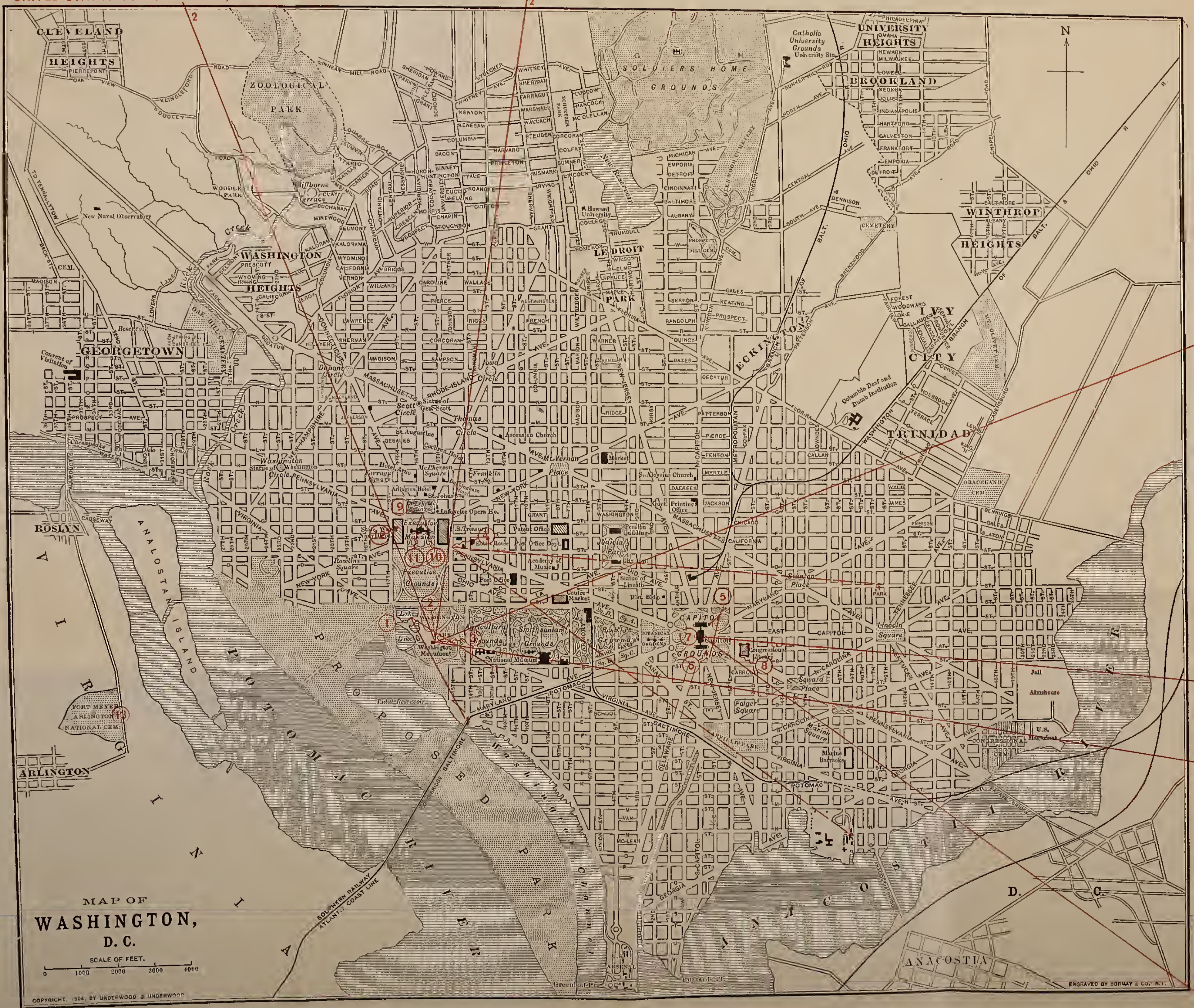
EXPLANATIONS OF MAP SYSTEM.

(1) The red line with arrows shows the general route along which the places to be seen in the stereographs are located.
(2) The rectangles in red (▭) shows the boundaries of a special map on a larger scale, as specified on the map margin at the end of the fine line which runs from each rectangle.
(3) The other red lines mark out the territory shown in the respective stereographs.
(4) The numbers in circles refer to stereographs correspondingly numbered.
(5) The apex (<), or point from which two lines branch out, indicates the place from which the view was taken, viz., the place from which we look out, in the stereograph, over the territory between the two lines.
(6) The branching lines (<) indicate the limits of the stereographed scene, viz., the limits of our vision on the right and left when looking at the stereograph.
(7) Sometimes the encircled number is placed where it can be seen better and a zigzag line runs to the apex to which it refers.

UNITED STATES TOUR, MAP NO. 2, POSITIONS 1-13.



Patented U. S. A., August 21, 1900.
Patented France, March, 26, 1900 S.G.D.G.
Patented Great Britain, March, 22, 1900.
Switzerland. ✠ Patent Nr. 21, 211.

EXPLANATIONS OF MAP SYSTEM.

(1) The red lines on this map mark out the territory shown in the respective stereographs.

(2) The numbers in circles refer to stereographs correspondingly numbered.

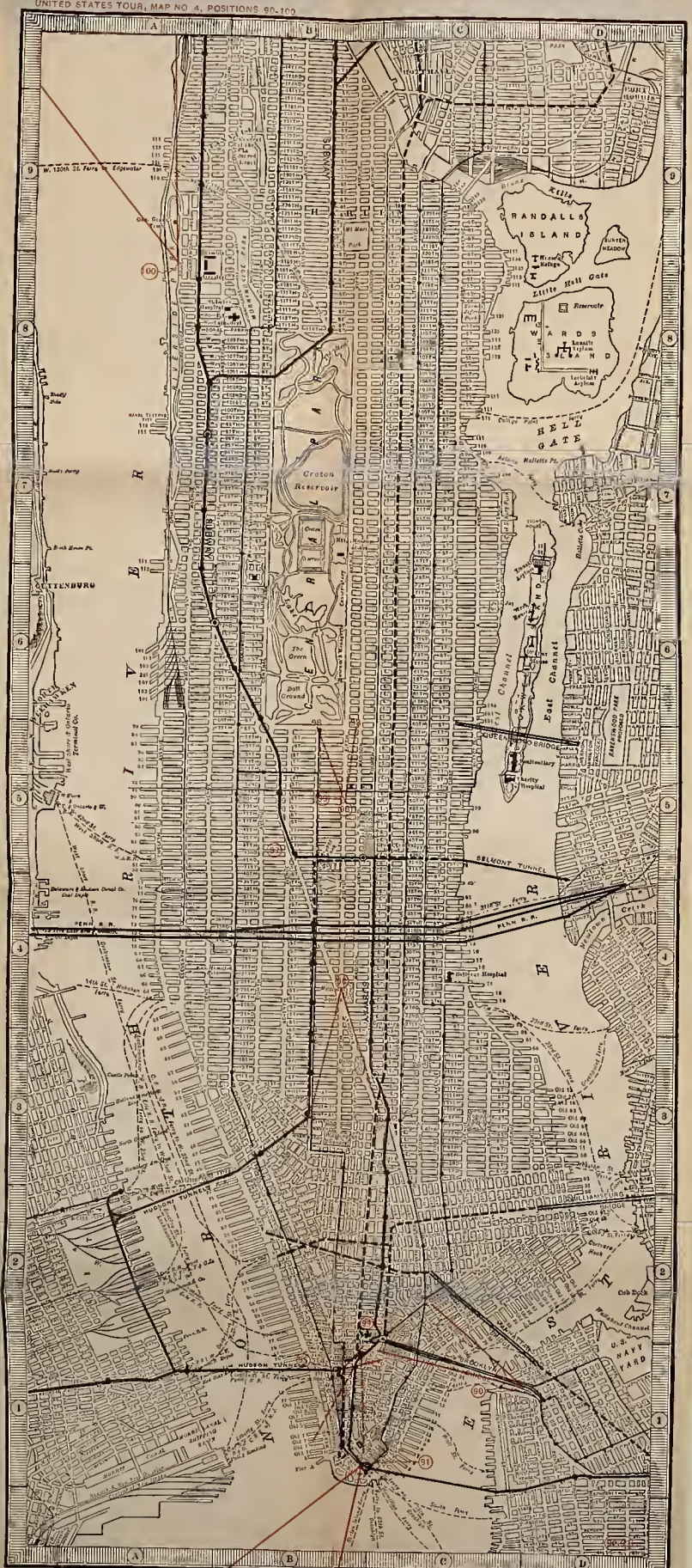
(3) The apex (<), or point from which two lines branch out, indicates the place from which the view was taken, viz., the place from which we look out, in the stereograph, over the territory between the two lines.

(4) The branching lines (<) indicate the limits of the stereographed scene, viz., the limits of our vision on the right and left when looking at the stereograph.

(5) The stereograph number without a circle is placed at the end of each branching line (example (56)< 56 56) to help locate quickly the space shown in a stereograph.

(6) Sometimes the encircled number is placed where it can be seen better and a zigzag line runs to the apex or position to which it refers.

(7) When some object obstructs the vision on the right or left in a stereoscopic scene, the bounding lines are continued beyond the obstruction as broken lines.



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Patented U. S. A., August 21, 1909.
Patented France, March, 28, 1909. S.G.D.G.
Patented Great Britain, March, 22, 1909.
Switzerland, Patent Nr. 11, 611.

EXPLANATIONS OF MAP SYSTEM.

(1) The red lines on this map mark out the territory shown in the respective stereographs.

(2) The numbers in circles refer to stereographs correspondingly numbered.

(3) The apex (<), or point from which two lines branch out, indicates the place from which the view was taken, viz., the place from which we look out, in the stereograph, over the territory between the two lines.

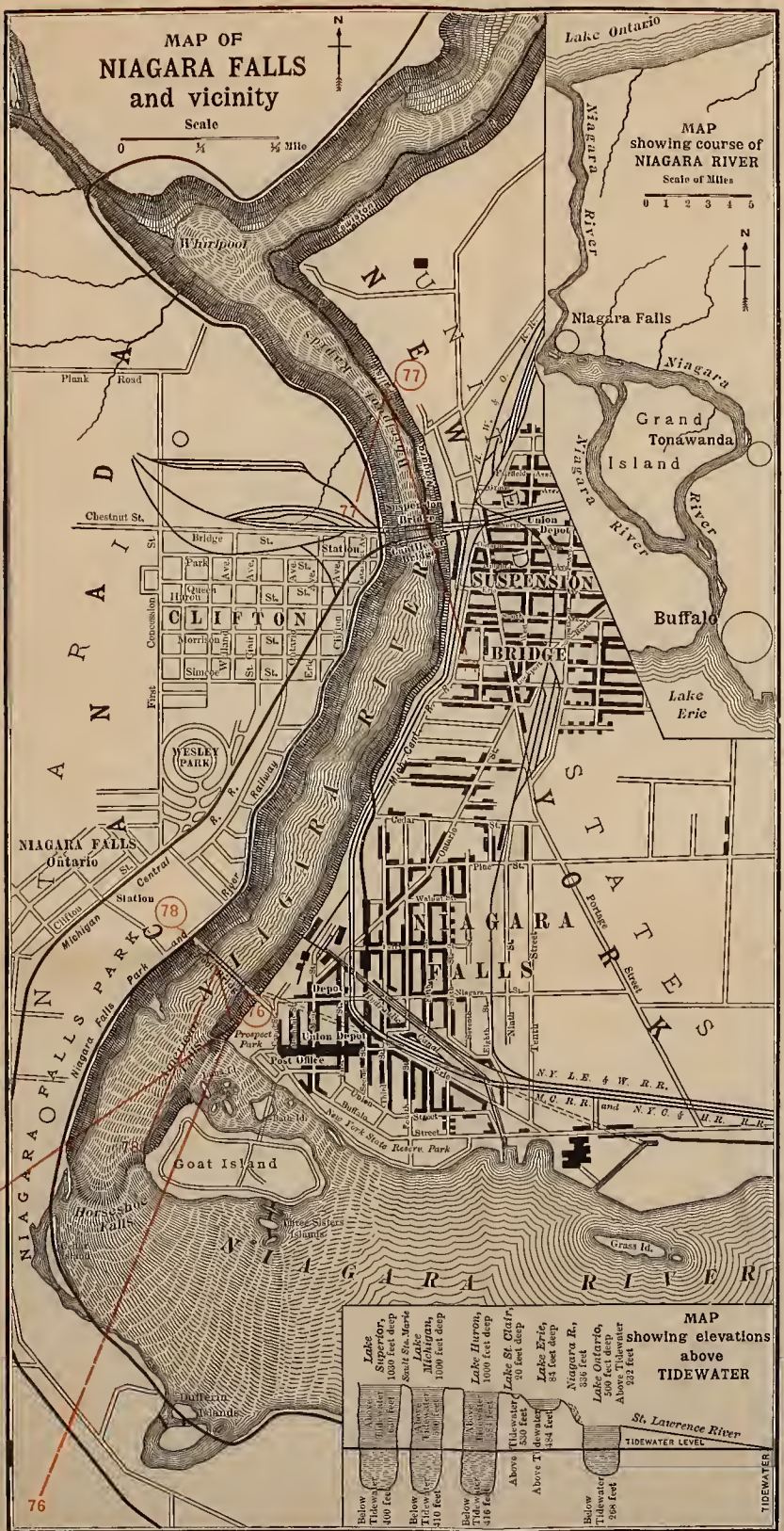
(4) The branching lines (<) indicate the limits of the stereographed scene, viz., the limits of our vision on the right and left when looking at the stereograph.

(5) The stereograph number without a circle is frequently placed at the end of each branching line (example (95) < 95 / 95) to help locate quickly the scene shown in a stereograph.

(6) Sometimes the encircled number is placed where it can be seen better and a zigzag line runs to the apex to which it refers.

(7) When the field of view in the stereoscopic scene is limited, as in 96, the number is given in a circle with an arrow pointing to the location.

(8) Where some object obstructs the vision on the right or left in a stereoscopic scene, the bounding lines on the map are continued beyond the obstruct on as broken lines.



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Patented U. S. A., August 21, 1900. *Patented Great Britain, March 22, 1900.*
Patented France, March 26, 1900. S. G. D. G *Switzerland.* *Patent Nr. 21,211.*
Patents applied for in other countries.

EXPLANATIONS OF MAP SYSTEM.

(1) The red lines on this map mark out the territory shown in the respective stereographs.

(2) The numbers in circles refer to stereographs correspondingly numbered.

(3) The apex (<), or point from which two lines branch out, indicates the place from which the view was taken, viz., the place from which we look out, in the stereograph, over the territory between the two lines.

(4) The branching lines (<) indicate the limits of the stereographed scene, viz., the limits of our vision on the right and left when looking at the stereograph.

(5) The stereograph number without a circle is placed at the end of each branching line (example 14) to help locate quickly the space shown in a stereograph.

(6) Sometimes the encircled number is placed where it can be seen better and a zigzag line runs to the apex to which it refers.

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